

STATE BOARD OF HEALTH ISSUE

# DELAWARE STATE MEDICAL JOURNAL

*Official Organ of the Medical Society of Delaware*

INCORPORATED 1789

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VOLUME 29

SEPTEMBER, 1957

NUMBER 9

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## SIMPILFIED DIABETIC DIETS

Complete Contents on Page iv

LOTION

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10

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\*This graph is adapted from Kempe, C. H.: *California Med.* 84:242, 1956. The single bar designated as "Antibiotics F" represents three widely used, chemically related agents grouped together by the investigator. Strains isolated January-June, 1954.

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## A REPORT ON A PROMISING CONCEPT IN ANTIMICROBIAL THERAPY: CONCURRENT ADMINISTRATION OF CHLOROMYCETIN AND GAMMA GLOBULIN

In treatment for infection, the physician is confronted with complex interactions between pathogen, antimicrobial agent and host. The pathogen represents the unselected factor, the therapeutic agent the component over which the physician exercises maximum control. But even with optimal antibiotic therapy, the eventual elimination of the infective agent and the resolution of pathologic changes depend upon efficient host response.<sup>1,2</sup>

Passive transfer of antibodies through gamma globulin provides a broad antibacterial spectrum because of origin in adults exposed to a variety of microorganisms. Employed as a protective element against some of the more common contagious diseases, gamma globulin permits more competent participation by the host in the fight against established infection.

Rationale for immuno-antibiotic therapy lies in simultaneous direct attack on the pathogen and re-enforced host resistance, which implies usefulness in treatment for acute fulminating, highly refractory, or prolonged infections.

### EXPERIMENTAL STUDIES ENCOURAGING

In carefully controlled studies in mice, Fisher and his colleagues in Parke-Davis Research Laboratories, using pooled human gamma globulin and Chloromycetin (chloramphenicol, Parke-Davis) concurrently, demonstrated a high degree of therapeutic effectiveness in infected animals.<sup>3</sup> Five types of infection induced with species of *Staphylococcus aureus*, *Streptococcus pyogenes*, *Proteus vulgaris* and *Pseudomonas aeruginosa* responded to joint therapy with gamma globulin and Chloromycetin, each agent having shown at deliberately low doses in previous work little or no activity in these mouse infections when used separately. Fisher's experiences with hemolytic streptococci have been confirmed.<sup>4</sup>

Tests now in progress with pneumococci, salmonellae and additional strains of pseudomonas and proteus indicate that marked increases in survival rates may be anticipated in any infection where chloramphenicol has previously demonstrated therapeutic activity.<sup>5</sup> These observations suggest that immuno-antibiotic therapy can effect cures in a variety of refractory microbial diseases.

### PROMISING IN EARLY CLINICAL TRIAL

Observations analogous to those of Fisher have been reported from the clinic.<sup>6-7</sup> More recently, the clinical use of gamma globulin in conjunction with antibiotics was undertaken by Waisbren<sup>8</sup> on the basis of Fisher's experimental work. His series of 46 patients with systemic and localized infections due to various strains of staphylococcus, pseudomonas, salmonella, proteus and to the pneumococcus had failed to respond to maximum effort with conventional therapeutic measures. Marked clinical improvement in

six of these acutely ill patients shows clearly "...that in certain instances the addition of gamma globulin to antibiotic therapy may give a clinical result that could not have been obtained with the antibiotics used alone. In each of these cases, a long and extensive control period in which antibiotics were being vigorously administered had failed to produce a response but when gamma globulin was given with approximately the same dosages of antibiotic, rather marked improvements occurred."<sup>9</sup>

While the precise mechanism underlying the salutary effect of gamma globulin remains to be clarified, the existence of quantitative hypogammaglobulinemia was ruled out in patients in this series.<sup>8</sup>

### A RATIONALE FOR IMMUNO-ANTIBIOTIC THERAPY

Although the relationship of susceptibility to infection and status of the host is well recognized, host resistance is an aspect of infectious disease still not understood in an era of extensive and of massive antibiotic therapy. Most antibiotics, in concentrations tolerated by living tissues, have bacteriostatic rather than bactericidal effect. In the clinic, bacteriostatic doses are most frequently given and host defense mechanisms are responsible for the eventually satisfactory clinical result.<sup>4</sup>

The problem of therapeutic failures despite vigorous courses of antibiotic therapy may be due to some disturbance in the immune process.<sup>6</sup> In addition, disproportionately high mortality rates in the extremes of life lend support to the impression of inadequate defense mechanisms, since these are underdeveloped and immature in the very young and may be impaired or depressed in the aged.<sup>4</sup>

Any discussion of immuno-antibiotic treatment must at present remain largely conjectural. From preliminary evidence, however, this approach to therapy appears worthy of consideration, especially in patients in whom adequate antibiotic therapy for active infectious processes has been disappointing. While the concept of enlisting the aid of the host in combating pathogenic microbes, thereby affording the physician control of two of the three principal interacting factors, is not new, enhancement of host resistance through use of gamma globulin in treatment for microbial disease is indeed a promising one.

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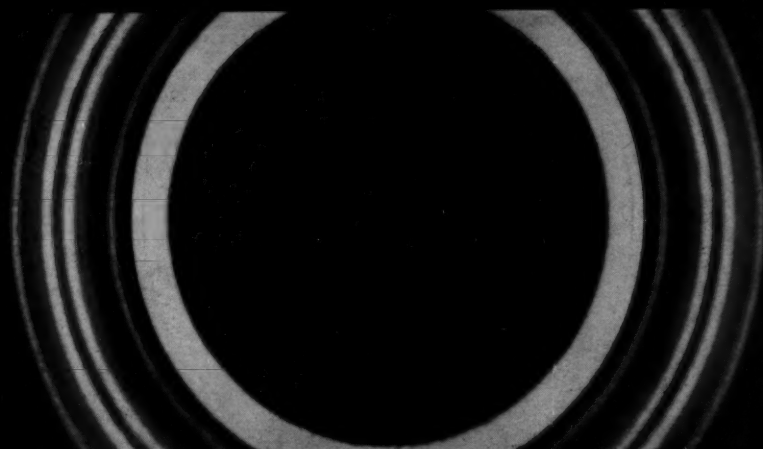
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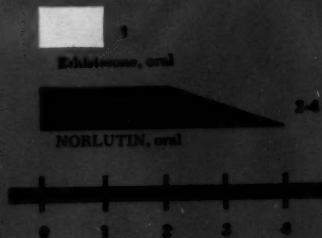
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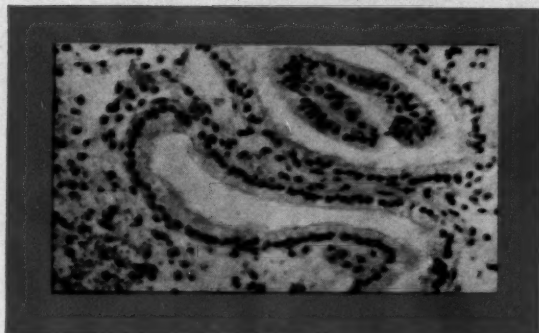
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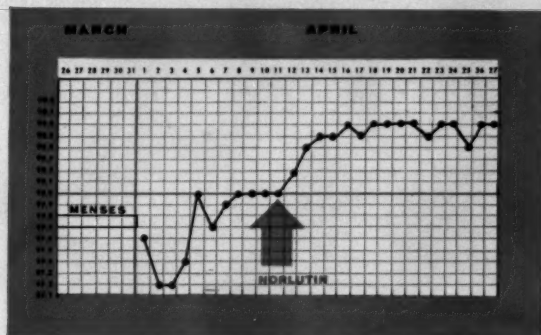
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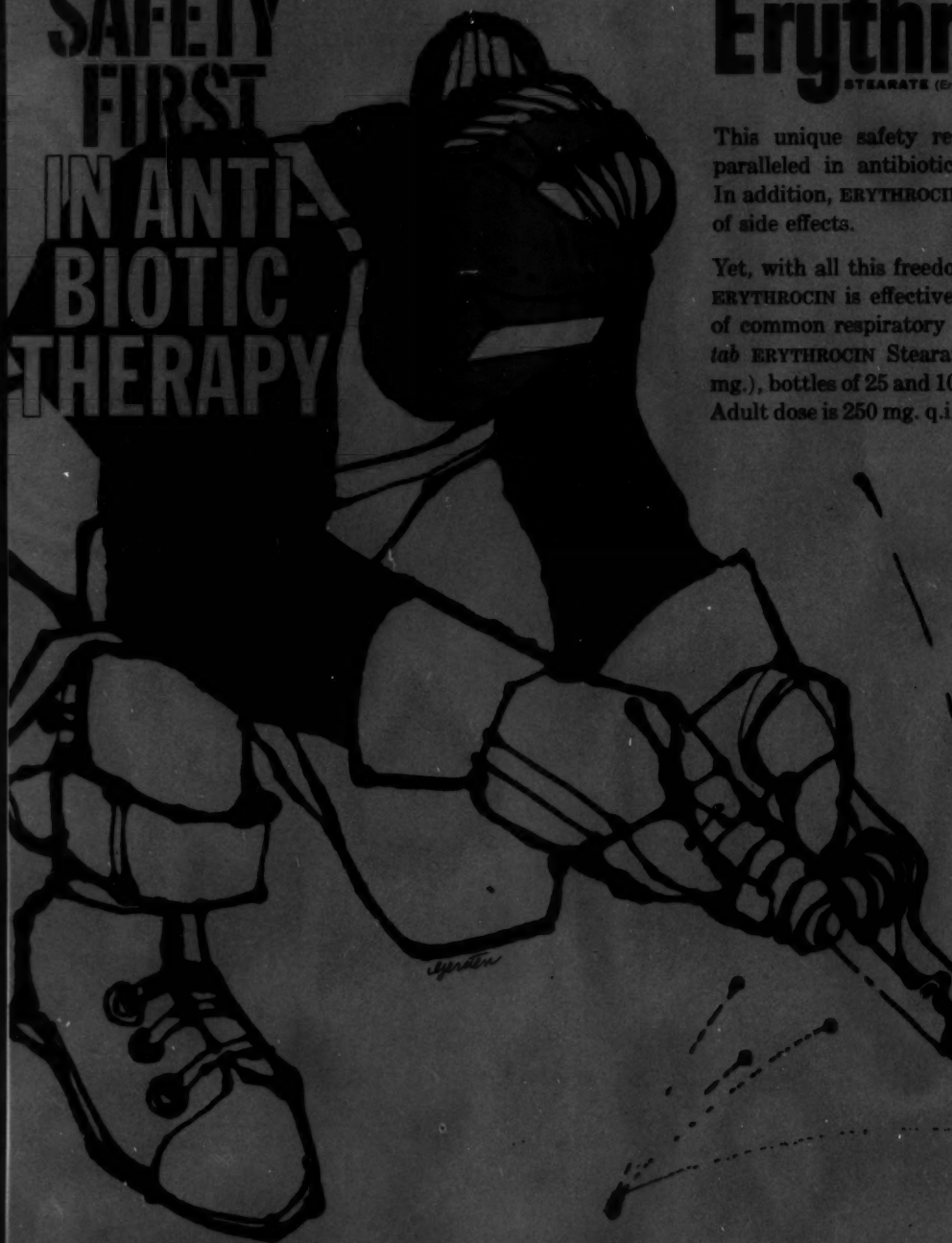
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An abstract black and white graphic. The background is a dark gray. There are several black ink splatters and lines. A large, bold, black text "SAFETY FIRST" is centered horizontally. The text is partially obscured by a large, dark, irregular shape on the left side. Below the text, there are several thin, black, curved lines that resemble a tangled wire or a splatter. On the right side, there are several thin, black, dashed lines that radiate outwards from a point, resembling a starburst or a splash. The overall composition is dynamic and abstract.

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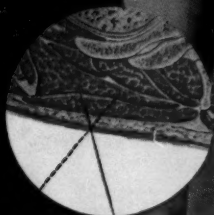


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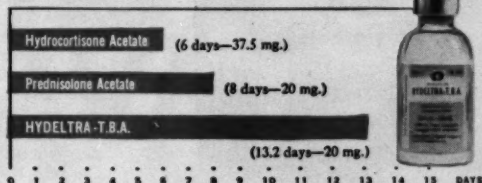
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permits  
painless  
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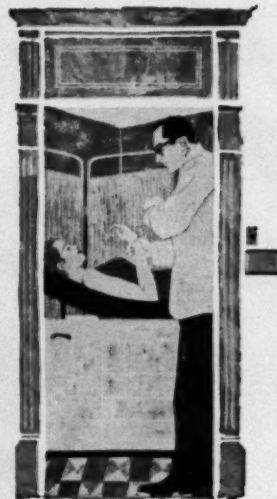


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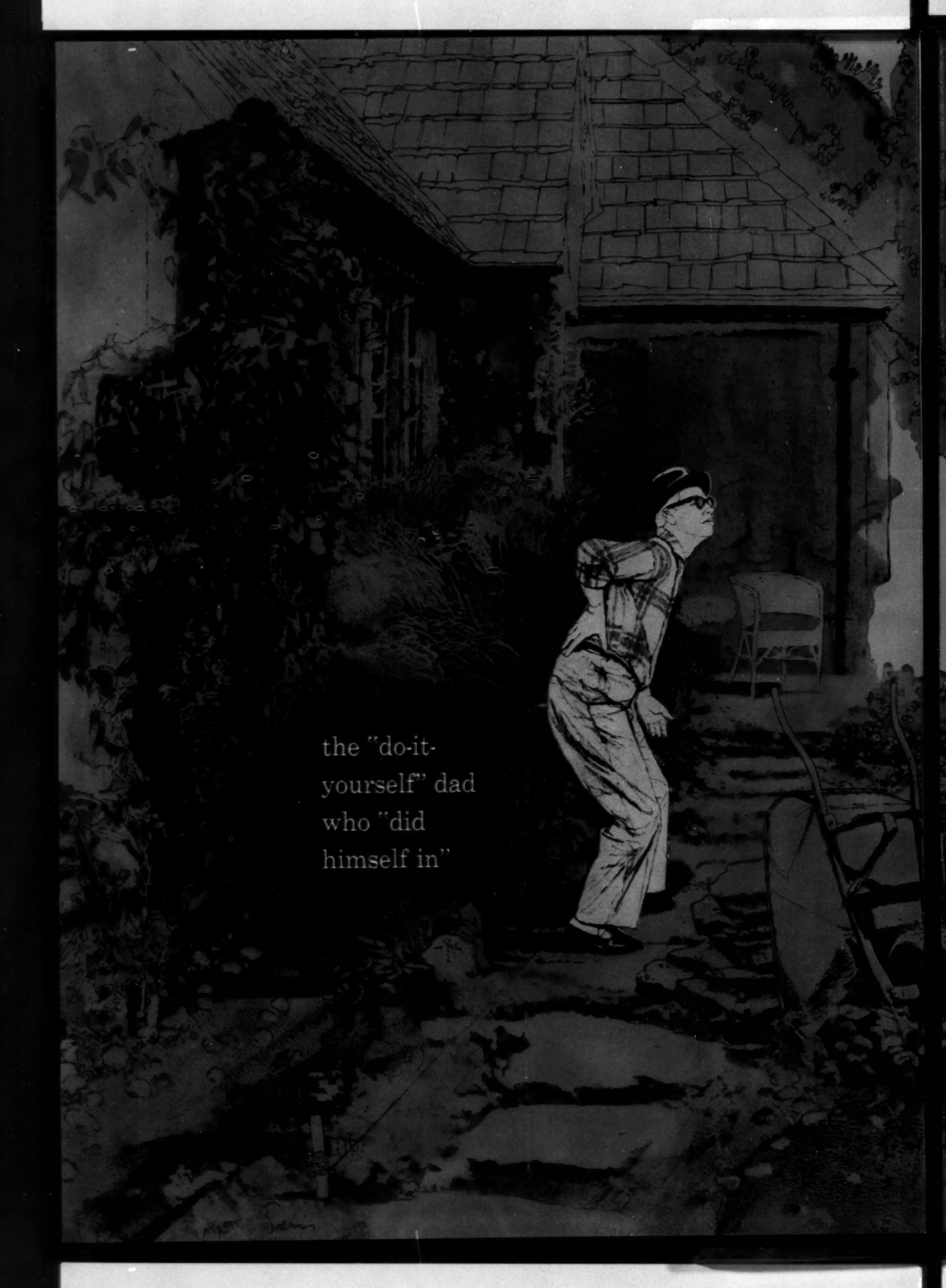
INFANTS' CALORIC REQUIREMENTS

| AGE<br>(Months) | CALS.<br>Per 24 hrs. | CALS.<br>Per Kilo | CALS.<br>Per Pound |
|-----------------|----------------------|-------------------|--------------------|
| 1               | 500                  | 115               | 52                 |
| 2               | 625                  |                   |                    |
| 3               | 675                  |                   |                    |
| 4               | 725                  | 110               | 50                 |
| 5               | 750                  |                   |                    |
| 6               | 800                  |                   |                    |
| 7               | 825                  | 100               | 45                 |
| 8               | 850                  |                   |                    |
| 9               | 875                  |                   |                    |
| 10              | 900                  | 95                | 43                 |
| 11              | 950                  |                   |                    |
| 12              | 1000                 |                   |                    |
| 24              | 1200                 | 90                | 40                 |



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the "do-it-  
yourself" dad  
who "did  
himself in"

# lumbago

For persons who overestimate their physical capacity—as with this do-it-yourself dad—chronic fibrositis may be a postscript to a weekend of accomplishment.

SIGMAGEN therapy is encouraged in the treatment of chronic fibrositis to alleviate pain and prevent progression of the disorder to fibrosis and calcification.

SIGMAGEN provides doubly protective corticoid-salicylate therapy. METICORTEN® (prednisone) and acetylsalicylic acid are combined to provide additive antirheumatic benefits and rapid analgesic effect. These dual clinical values are enhanced by aluminum hydroxide to counteract excess gastric acidity and by ascorbic acid to help meet the increased need for this vitamin during stress situations.

Therapy should be individualized. *Acute conditions:* 2 or 3 tablets 4 times daily. Following desired response, gradually reduce daily dosage and discontinue. *Sub-acute or chronic conditions:* Initially as above. After satisfactory control is obtained, gradually reduce the daily dosage to minimum effective maintenance level. For best results administer after meals and at bedtime.

Precautions: Because SIGMAGEN contains prednisone, the same precautions and contraindications observed with this steroid apply also to the use of SIGMAGEN.

*for patients who go beyond their physical capacity*

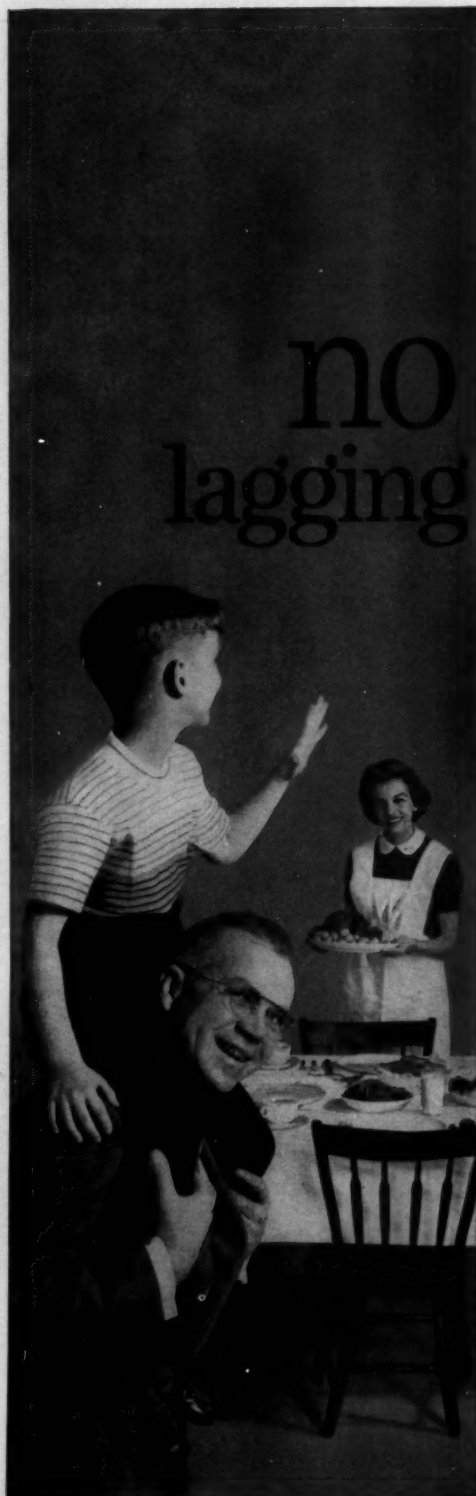
protective corticoid-salicylate therapy

## SIGMAGEN®

corticoid-analgesic compound Tablets

|                                |          |                              |        |
|--------------------------------|----------|------------------------------|--------|
| Prednisone . . . . .           | 0.75 mg. | Aluminum hydroxide . . . . . | 75 mg. |
| Acetylsalicylic acid . . . . . | 325 mg.  | Ascorbic acid . . . . .      | 20 mg. |





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# INCREMIN<sup>\*</sup>

LYSINE-VITAMIN SUPPLEMENT **LEDERLE**

Finicky eaters are headed for a fast nutritional build-up with INCREMIN — tasty appetite stimulant.

INCREMIN offers L-Lysine for improved protein utilization, and essential vitamins for their stimulating effect on appetite.

Tasty INCREMIN is available in either Drops or Tablets. Caramel-flavored Tablets may be orally dissolved, chewed or swallowed. Cherry-flavored Drops may be mixed with milk, formula or other liquid. Tablets: bottles of 30. Drops: plastic dropper-type bottle of 15 cc.

*Each INCREMIN Tablet  
or each cc. of INCREMIN Drops contains:*

L-Lysine 300 mg.  
Vitamin B<sub>12</sub> 25 mcgm.  
Thiamine (B<sub>1</sub>) 10 mg.

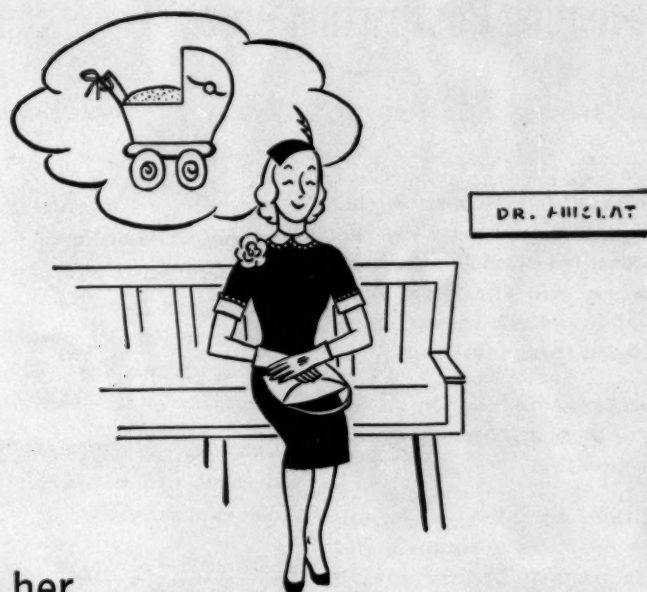
Pyridoxine (B<sub>6</sub>) 5 mg.  
(INCREMIN Drops contain 1% alcohol)

Dosage: only 1 INCREMIN Tablet or 10-20 INCREMIN Drops daily.

<sup>\*</sup>Reg. U. S. Pat. Off.

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PEARL RIVER, NEW YORK





assure her

***a more serene, a happier pregnancy  
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give her **'MAREDOX'**<sup>®</sup>  
brand

Cyclizine Hydrochloride and Pyridoxine Hydrochloride

because

'Maredox' gives the expectant mother new-found relief from morning sickness.

*relieves nausea and vomiting*  
and  
*counteracts pyridoxine deficiency*  $\searrow$  *in pregnancy*

One tablet a day, taken either on rising or at night, is all that most women require.

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'Marezine' brand Cyclizine Hydrochloride . . . . . 50 mg.  
Pyridoxine Hydrochloride . . . . . 50 mg.



**BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York**

# Combined Estrogen-Androgen Therapy Proved 96% Effective in Preventing Postpartum Breast Engorgement<sup>1</sup>

## *Dual Steroid Approach also Successful in Osteoporosis*

Of more than 4 million babies born in the United States this year, approximately 75 per cent will not be breast fed.<sup>2</sup> Combined estrogen-androgen therapy will effectively suppress lactation and prevent postpartum breast engorgement in these mothers.

Osteoporosis also ranks high on the list of present day medical problems because of the increasing older population.

In either condition, combined estrogen-androgen therapy produces a complementary metabolic response with little or no side effects.

In postpartum breast engorgement the rationale of therapy is explained as follows: During pregnancy, the high estrogen titer exerts an inhibitory effect on the anterior pituitary, thereby preventing the release of the lactogenic hormone, prolactin. Postpartum, the estrogen level drops off suddenly, and allows the release of previously inhibited prolactin which is now free to initiate the flow of milk. Sex hormones re-establish pituitary inhibition, thus arresting the lactating process.

In Fiskio's study,<sup>1</sup> "Premarin" with Methyltestosterone effectively relieved postpartum breast engorgement and suppressed lactation in 96.2 per cent of his group of 267 patients. Notably absent were breast abscesses, nausea, vomiting, excessive lochia, withdrawal bleeding or virilization. Menses were re-established after the normal six week period. The lack of mental depression during the puerperium was especially gratifying.

Osteoporosis results from impairment of osteoblastic activity, and gonadal hormone decline is possibly the most prevalent cause. Estrogen stimulates osteo-

blastic activity and increases calcium and phosphorus retention, while androgen exerts an anabolic or protein-forming action. Prognosis for bone recalcification is good, providing therapy is continued for extended periods. The possibility of side effects is minimized because the two hormones exert an opposing action on sex-linked tissue.

Estrogen and androgen as combined in "Premarin"• with Methyltestosterone provide a treatment of choice in osteoporosis.

Recommended Dosage: (Directions refer to yellow tablets.)

*Postpartum breast engorgement* — Short duration therapy — (one week) — 3 tablets every four hours for five doses — then 2 tablets daily for rest of week. "Step-down" therapy — (10 to 15 days) — 1st day — 4 tablets; 2nd day — 3 tablets; 3rd day — 2 tablets; thereafter, 1 tablet daily for 10 to 15 days. *It is important to start therapy as soon as possible after delivery.*

*Osteoporosis:* 2 tablets daily, for the first three weeks. Then 1 tablet daily thereafter. In the female, it is suggested that combined therapy be given in 21 day courses with a rest period of about one week between courses, and be continued for 6 to 12 months; following this period, the patient may be maintained with cyclic therapy employing "Premarin" Tablets alone.

Supplied in two potencies: *Yellow tablets* — each contains 1.25 mg. conjugated estrogens, equine ("Premarin") and 10 mg. methyltestosterone. *Red tablets* — each contains 0.625 mg. and 5 mg. respectively. Bottles of 100 and 1,000.

*Bibliography:* Available on request.

AYERST LABORATORIES  
New York, N. Y. • Montreal, Canada





## PREVENT P.P.B.E.

Postpartum breast engorgement was satisfactorily prevented in 96 per cent of a series of 267 patients who received "Premarin" with Methyltestosterone promptly after delivery. No serious side effects were noted, and the absence of mental depression in the puerperium was notable. (Fiskio, P.W.: GP 11:70 May) 1955

**"PREMARIN" WITH METHYLTESTOSTERONE**  
for combined estrogen-androgen therapy



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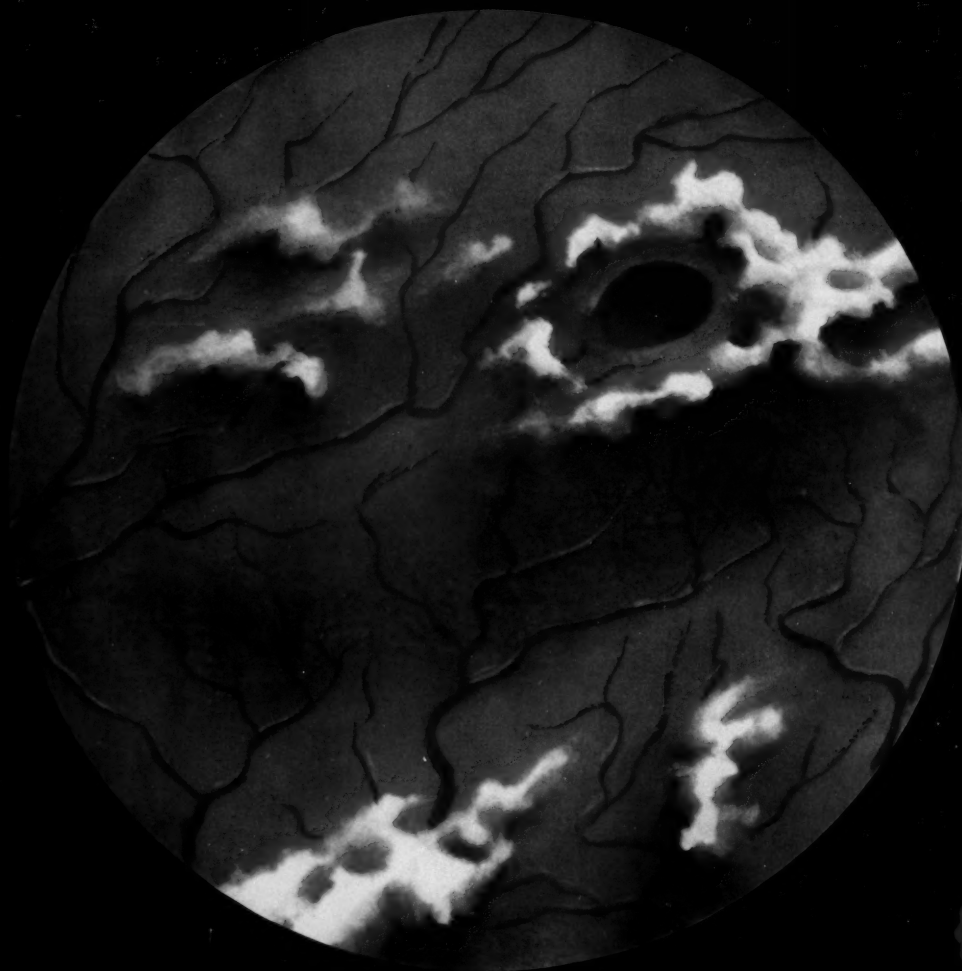
***Single sulfonamide specifically for urinary tract infections***

***—unexcelled in long-term therapy.*** Gram for gram "Thiosulfil" is unexcelled for effective bacteriostatic action against a broad variety of urinary tract pathogens. High solubility, complete absorption, minimal acetylation, and negligible penetration into red blood cells ensure rapid and effective action with minimal side effects.

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*direct / effective* **"THIOSULFIL"**<sup>®</sup>  
(Brand of sulfamethizole)

5731



*Ayerst*

Cystitis, showing typical inflammatory reaction of the bladder mucosa with mucopurulent areas.



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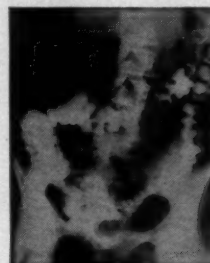
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Wilmington, Delaware

when anxiety and tension "erupts" in the G. I. tract...

# in spastic and irritable colon



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Meprobamate with PATHILON® Lederle

*Combines Meprobamate (400 mg.) the most widely prescribed tranquilizer... helps control the "emotional overlay" of spastic and irritable colon—without fear of barbiturate loginess, hangover or habituation...with PATHILON (25 mg.) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.*

*Dosage:* 1 tablet t.i.d. at mealtime. 2 tablets at bedtime. *Supplied:* Bottles of 100, 1,000.



\*Trademark

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LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

When  
smooth  
muscle  
spasm  
gets  
rough  
on your  
patients



Like oil on troubled waters...



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**DONNATAL ELIXIR (per 5 cc.)**

Hyoscyamine Sulfate.....0.1037 mg.  
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Hyoscine Hydrobromide...0.0065 mg.  
Phenobarbital (¼ gr.).... 16.2 mg.

**DONNATAL EXTENTABS®**

(Extended Action Tablets)

Each Extentab (equivalent to 3 Tablets) provides sustained 1-tablet effects...evenly, for 10 to 12 hours — all day or all night on a single dose.

# DONNATAL®

**provides superior spasmolysis**

through provision of natural belladonna

alkaloids in optimal ratio, with phenobarbital



**A. H. ROBINS CO., INC., RICHMOND 20, VA.**

*optimal dosages for ATARAX.  
based on thousands of case histories:*

**25** mg. (t.i.d.)

TENSION SENILE ANXIETY MENOPAUSAL SYNDROME ANXIETY PREMENSTRUAL TENSION  
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*perhaps the safest ataraxic known*

PEACE OF MIND **ATARAX**<sup>®</sup>  
(BRAND OF HYDROXYZINE) Tablets-Syrup

**10** mg. (t.i.d.)

ANXIETY TICS HOSTILITY NIGHTMARES HYPEREMOTIVITY RESTLESSNESS  
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*Consider these 3 ATARAX advantages:*

- 9 of every 10 patients get release from tension, without mental fogging
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- flexible medication, with tablet and syrup form

*Supplied:*

In tiny 10 mg. (orange) and 25 mg. (green) tablets, bottles of 100.

ATARAX Syrup, 10 mg. per tsp., in pint bottles. Prescription only.



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# Meat...

## *and the Need for Adequate Protein in Therapeutic Nutrition*

Liberal protein intake is considered to be of therapeutic value in a wide variety of pathologic conditions.<sup>1</sup> Advances in the understanding of protein metabolism indicate that dietary protein should provide amino acids in proportions paralleling physiologic needs.<sup>2,3</sup> In experimental studies with animals, low protein diets supplying amino acids disproportionate to needs have been shown to effect physiologic harm by depressing growth, by inducing amino acid and B-vitamin deficiencies, and by causing deposition of fat in the liver.<sup>4</sup>

Hence not only the *amount* of protein but also its *quality* (in terms of its amino acid proportions) is important. It has been suggested<sup>1</sup> that for therapeutic purposes about two-thirds of the ingested protein come from foods of animal source, whose protein resembles human body protein in amino acid interrelationships. Depending on the needs of the patient, the therapeutic diet may supply 1.0 or more grams of protein per kilogram of body weight. Adequate caloric intake is required to protect the dietary protein from dissipation for energy purposes.

Meat, with its high content of top-quality protein, holds a prominent place among foods which supply this essential for establishing satisfactory levels of amino acids in physiologic proportions. It also contributes valuable amounts of B vitamins and essential minerals—nutrients which play a basic role in intermediate metabolism.

1. Proudfit, P. T., and Robinson, C. H.: Nutrition and Diet Therapy, ed. 11, New York, The Macmillan Company, 1955, pp. 314-320.
2. Harper, A. E.: Amino Acid Imbalance, Toxicities and Antagonisms, Nutrition Rev. 14:225 (Aug.) 1956.
3. Amino Acid Requirements of Adult Man, Nutrition Rev. 14:232 (Aug.) 1956.
4. Amino Acid Imbalance and Supplementation, Editorial, J.A.M.A. 167:884 (June 30) 1956. Council on Foods and Nutrition, American Medical Association: Importance of Amino Acid Balance in Nutrition, J.A.M.A. 158:655 (June 25) 1955.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

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unexcelled in  
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In the nonhormonal treatment of arthritis and allied disorders no agent surpasses BUTAZOLIDIN in potency of action.

Its well-established advantages include remarkably prompt action, broad scope of usefulness, and no tendency to development of drug tolerance. Being nonhormonal, BUTAZOLIDIN causes no upset of normal endocrine balance.

BUTAZOLIDIN relieves pain,  
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BUTAZOLIDIN being a potent therapeutic agent, physicians unfamiliar with its use are urged to send for detailed literature before instituting therapy.

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*"...especially suitable  
for out-patient and  
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†Ayd, F. J., Jr.: The Treatment of Ambulatory and Hospitalized Psychiatric Patients with Trilafon, presented at Ann. Meet., Am. Psychiat. Assoc., Chicago, Ill., May 13-17, 1957.

# Trilafon<sup>\*</sup>

(pronounced Trill'-ah-fon)      perphenazine

*the full-range tranquilizer*

## EXCEPTIONAL THERAPEUTIC RANGE

... dosage range adaptable for tension and anxiety states, ambulatory psychoneurotics, agitated hospitalized psychotics

## EXCEPTIONAL POTENCY

- At least five times more potent than earlier phenothiazines

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- From the mildest to the severest nausea and vomiting due to many causes

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- Jaundice attributable to the drug alone not reported
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TRILAFON—grey tablets of 2 mg. (black seal), 4 mg. (green seal), 8 mg. (blue seal), bottles of 50 and 500; 16 mg. (red seal), for hospital use, bottle of 500.

Refer to Schering literature for specific information regarding indications, dosage, side effects, precautions and contraindications.

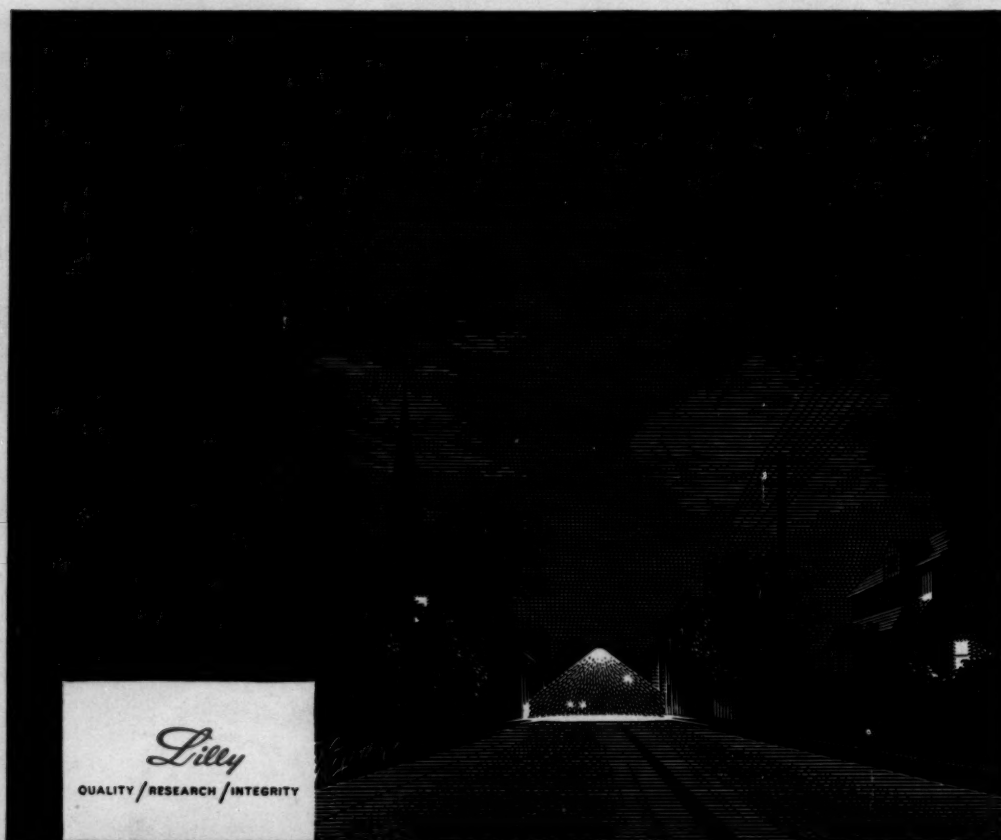
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There are equal parts of quick-acting 'Seconal Sodium'\* and moderately long-acting 'Amytal Sodium'† in each Pulvule Tuinal. Assures your obstetric patient quick, sustained amnesia; your surgical patient relief from apprehension and fear.

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**MEDICAL SOCIETY OF DELAWARE  
168TH**

**ANNUAL MEETING**

**Scottish Rite Cathedral 20 W. Lea Boulevard, Wilmington**

**October 25-26, 1957**

- Sunday, October 20 3:00 P.M. House of Delegates**  
Meets at the Delaware Academy of Medicine, Lovering Avenue and Union Street, Wilmington.
- 6:30 P.M. Supper for Delegates**  
Delaware Academy of Medicine.
- 
- Friday, October 25 1:00 P.M. Registration and Exhibits**  
Scottish Rite Cathedral.
- 1:30 P.M. The Doctor and The Trust Department**  
Rodman Ward, Vice President and Trust Officer, Equitable Security Trust Co.
- 2:15 P.M. The Doctor and His Taxes**  
H. L. Brown, District Director, Internal Revenue Service, U.S. Treasury Dept.
- 3:00 P.M. Intermission — Exhibits**
- 3:30 P.M. The Doctor's Investment Program**  
**Panel Discussion**  
*Moderator*, Paul D. Lovett, Vice President and Trust Officer, Delaware Trust Co.  
*Senior Securities*—George Winchester, Partner, Laird, Bissell and Meeds.  
*Common Stocks*—Joshiah M. Scott, Laird and Company, Inc.  
*Real Estate*—Arnold Goldsborough, Arnold Goldsborough, Realtor.  
*Insurance*—Edward G. Braun, Jr., District Manager, Aetna Life, J. A. Montgomery, Inc.
- 5:00 P.M. Adjournment to Exhibits**
- 
- 8:00 P.M. Registration — Evening Session**
- 8:30 P.M. Report of the House of Delegates**  
Norman L. Cannon, M.D., Secretary.
- 8:40 P.M. Presidential Address**  
Roger Murray, M.D.
- 9:00 P.M. Dysmenorrhea — Panel**  
*Moderator*, O. N. Stern, M.D., Wilmington.  
H. Keith Fischer, M.D., Assistant Professor of Psychiatry, Temple University School of Medicine.  
Laurence L. Fitchett, M.D., Milford, General Practice.  
Abraham S. Rakoff, M.D., Professor of Obstetrical and Gynecological Endocrinology, Jefferson Medical College.
- 10:30 P.M. Refreshments**

|                          |                       |   |
|--------------------------|-----------------------|---|
| <b>Saturday, Oct. 26</b> | <b>9:00 A.M.</b>      | <b>Registration — Exhibits</b>  |
|                          | <b>9:30 A.M.</b>      | <b>"Blow-Out Patch" of Hernia with Steel Cloth</b><br>Daniel J. Preston, M.D., and Charles F. Richards, M.D.  |
|                          | <b>10:00 A.M.</b>     | <b>Advances in Neuro-Surgery</b><br>Philip D. Gordy, M.D.   |
|                          | <b>10:30 A.M.</b>     | <b>Intermission — Exhibits</b>  |
|                          | <b>11:00 A.M.</b>     | <b>This is Plastic Surgery?</b><br>James T. Metzger, M.D.   |
|                          | <b>11:30 A.M.</b>     | <b>Election of President-Elect</b>  |
|                          | <b>12:00 noon</b>     | <b>Adjournment — Exhibits</b>   |
|                          | <b>12:30 P.M.</b>     | <b>Luncheon as Guests of the New Castle County Medical Society</b>  |
|                          | <b>1:30 P.M.</b>      | <b>Malpractice — Prevention and Protection</b><br>John V. Hopkins, M.D., Surgical Director, U. S. Fidelity and Guaranty Co.<br><i>Discussion by David F. Anderson, Esq., Counsel, Medical Society of Delaware, and Emil R. Mayerberg, M.D., Chairman, Grievance Board, Medical Society of Delaware.</i>   |
|                          | <b>2:15 P.M.</b>      | <b>Uterine and Cervical Carcinoma — Panel</b><br><i>Presented in cooperation with the Delaware Division, American Cancer Society.</i><br><i>Moderator, John F. W. King, M.D., Director of Services, American Cancer Society.</i><br>John K. Frost, M.D., Professor of Pathology, University of Maryland Hospital.<br>Michael J. Jordan, M.D., Assistant Professor of Gynecology and Obstetrics, New York University School of Medicine, (Bellevue).<br>George C. Lewis, Jr., M.D., Assistant Professor of Gynecology and Obstetrics, University of Pennsylvania Hospital.<br>Antolin Raventos, M.D., Assistant Professor of Radiology, University of Pennsylvania Hospital. |
|                          | <b>3:00-3:30 P.M.</b> | <b>Intermission — Exhibits</b>  |
|                          | <b>3:30 P.M.</b>      | <b>Continuation of Panel</b>  |
|                          | <b>5:00 P.M.</b>      | <b>Adjournment — Exhibits</b>   |
|                          | <b>7:00 P.M.</b>      | <b>Cocktails — Wilmington Country Club</b>  |
|                          | <b>7:30 P.M.</b>      | <b>Annual Banquet — Wilmington Country Club</b><br>Guest Speaker — Frank Coleman, M.D., Des Moines, Iowa  |

## SCIENTIFIC EXHIBITS

### Diagnosis of Glaucoma in General Practice

Ophthalmologists of Delaware.

### Diagnosis of Histoplasmosis

Park W. Huntington, M.D., and Elvyn G. Scott, Bacteriologist.

### Dry-Freezing and Storage of Arteries

Walter W. Moore, M.D.

### Gross Pathology Demonstrations

Delaware Pathological Society.

### Malignant Lymphoma (Hodgkin's Disease and Lymphosarcoma):

Pathology, Treatment and Prognosis for Care

Joseph W. Abbiss, M.D., Robert W. Frelick, M.D., and John F. Hynes, M.D.

### Operation of the Delaware Hospital Home Care Program

Home Care Committee, Delaware Hospital.

### Operation of the Dependents Medical Care Program (Medicare)

U.S. Department of the Army

### Research Projects on the Blood and Cardiovascular System

O. J. Pollak, M.D.

### Thoracic Surgery and Pulmonary Studies

Frank T. O'Brien, M.D.

### Urological Case Histories

Urologists of Delaware

### World Medical Association

O. J. Pollak, M.D., Delaware Chairman.

---

## TECHNICAL EXHIBITS

Abbott Laboratories

Amsterdam Brothers, Inc.

J. Beeber Company, Inc.

Bellevue Surgical Supply Co.

Delaware Anti-Tuberculosis Society

Delaware League for Planned

Parenthood

Delaware State Board of Health

Dictaphone Corporation

Doho Chemical Corporation

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International Business Machines Corp.

Laird, Bissell and Meeds

Lederle Laboratories

Charles Lentz and Sons

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Milex of New York

Monroe Calculating Machine Company

Nicholas J. Reilly

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U. S. Vitamin Corporation

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TWENTY-EIGHTH ANNUAL MEETING  
 OF THE WOMAN'S AUXILIARY

To the Medical Society of Delaware  
 Saturday, October 26, 1957

BRANDYWINE COUNTRY CLUB

*President*  
 Mrs. H. T. McGuire, New Castle

*President-Elect*  
 Mrs. R. B. Thomas, Wilmington

*Vice-President*  
 Mrs. L. L. Fitchett, Milford

*Recording Secy.*  
 Mrs. W. T. Reardon, Wilmington

*Corresponding Secy.*  
 Mrs. S. W. Bartoshesky, Wilmington

*Treasurer*  
 Mrs. H. J. Laggner, Smyrna

10:00 a.m.      Registration and Hospitality

10:30 a.m.      General Session—Mrs. H. Thomas McGuire, Presiding

                 Invocation

                 Pledge of Loyalty

                 Address of Welcome—Mrs. John W. Alden

                 Response—Mrs. L. L. Fitchett

                 Presentation of Convention Chairman

                            Mrs. Peter J. Oliver

                            Mrs. Joseph J. Davalos—Co-Chairman

                 Introductions—Honored Guests

                 Roll Call of Delegates—

                            Mrs. William T. Reardon

                 Minutes of 27th Annual Meeting

                 Treasurer's Report—Mrs. H. J. Laggner

                 Reports of County Presidents

                            New Castle—Mrs. D. W. MacKelcan

                            Kent—Mrs. W. C. Pritchard, Jr.

                            Sussex—Mrs. W. B. Cooper, Jr.

                 Report of 1957 National Convention Delegates—

                            Mrs. D. W. MacKelcan

                            Mrs. J. W. Alden

                 Report of the President—Mrs. H. T. McGuire

                 Report of the Nominating Committee—

                            Mrs. Willard F. Preston

                 Election of Officers

                 Installation of Officers—Mrs. R. W. Comegys

                 Adjournment

1:00 P.M.      Luncheon—Brandywine Country Club

                 Toastmistress—Mrs. Joseph M. Barsky, Sr.

                 Invocation—Rev. Henri I. Foltz

                 Address—President of the Medical Society of  
                  Delaware—Roger Murray, M.D.

                 Greetings—Honorable J. Caleb Boggs

                 Introduction of Advisory Committee to Auxiliary

                 Guest Speaker—Mr. Walter O'Keefe—New York  
                  City

                 Presentation of Past Presidents' Pins

                 Presentation of Gavel and President's Pin

                 Inaugural Message—Mrs. Roger B. Thomas

                 Adjournment

7:00 P.M.      Dinner with members of the Medical Society of  
                  Delaware—Dress Optional

# DELAWARE STATE MEDICAL JOURNAL

*Issued Monthly Under the Supervision of the Publication Committee  
Owned and Published by the Medical Society of Delaware*

VOLUME 29

SEPTEMBER, 1957

NUMBER 9

## CALCULATION OF DIABETIC DIETS SIMPLIFIED

MAYTON ZICKEFOOSE, M.S.\*

Simplification of meal planning for the person with diabetes was the prime objective of the committee of the American Diabetic Association which cooperated with the American Diabetes Association and the Chronic Disease Program of the U. S. Public Health Service<sup>1</sup> in working out materials for use with the diabetic patient. This action was prompted by the difficulties encountered by patients in following dietary regimens and by the professional team of physician, dietitian, and nurse in prescribing and interpreting the diet to the patient. Some of the problems encountered were:

Lack of variety due to the limited choice of foods resulting in a monotonous menu;

Numerous food restrictions often without scientific basis and frequently conflicting;

Inflexibility in the dietary plan, making it difficult to adjust the diet to

the family meal plan, to eating away from home, or to cultural or economic factors;

Lack of instructions regarding food preparation to increase palatability of the diet;

Complicated and impractical measurements of sizes of servings of food; and

Nutritional inadequacy of diet, especially in relation to calories.

The first report concerning these materials was given in 1950.<sup>2</sup> The fundamental tools for planning diabetic diets according to the recommended simplified method included a brief table of food values for calculating diabetic diets as shown in Table 1;<sup>2</sup> a set of six lists<sup>3</sup> of foods in a booklet, "Meal Planning with Exchange Lists" (in it, foods having a more or less common composition are grouped together in such quantities that one food can be exchanged for another in each group); and an easy method of calculating diabetic diets based on these food values and food lists (Table 8).

\* Nutrition Consultant, State Board of Health.

TABLE 1  
Food values for calculating diabetic diets

| GROUP              | AMOUNT     | WEIGHT | CARBO-<br>HY-<br>DRATE | PRO-<br>TEIN | FAT | ENERGY   |
|--------------------|------------|--------|------------------------|--------------|-----|----------|
|                    |            | gm.    | gm.                    | gm.          | gm. | calories |
| Milk, whole        | ½ pint     | 240    | 12                     | 8            | 10  | 170      |
| Vegetable, Group A | as desired | —      | —                      | —            | —   | —        |
| Vegetable, Group B | ½ cup      | 100    | 7                      | 2            | —   | 36       |
| Fruit              | varies     | —      | 10                     | —            | —   | 40       |
| Bread exchanges    | varies     | —      | 15                     | 2            | —   | 68       |
| Meat exchanges     | 1 ounce    | 30     | —                      | 7            | 5   | 73       |
| Fat exchanges      | 1 teaspoon | 5      | —                      | —            | 5   | 45       |

Foods of similar composition have been combined into food exchange lists. The exchange lists were set up as shown in the following tables.

### MILK

Several forms of cow's milk are available, such as evaporated, dried, or skim milk. These types of milk have been combined into one table called the "Milk Exchange List" (Table 2). In the amounts listed, one may be substituted for another since they are all approximately equal in composition.

TABLE 2

List 1—Milk Exchanges

Per serving: carbohydrate, 12 gm.; protein, 8 gm.; fat, 10 gm.

| TYPE OF MILK                             | APPROX. MEASURE |
|--|-----------------|
| Whole milk (plain or homogenized)        | 1 cup (8 oz.)   |
| Skim milk*                               | 1 cup           |
| Evaporated milk                          | 1/2 cup         |
| Powdered whole milk                      | 1/4 cup         |
| Powdered skim milk (non-fat dried milk)* | 1/4 cup         |
| Buttermilk (from whole milk)             | 1 cup           |
| Buttermilk (from skim milk)*             | 1 cup           |

\* Since these forms of milk contain no fat, two fat exchanges may be added to the diet when they are used.

### VEGETABLES AND FRUITS

The vegetables are classified into three different lists. The first group is known as Group A (Table 3). These contain 3 grams or less of carbohydrate per 100-gram serving. They need not be figured in the diet unless more than 200 grams are used at a meal.

TABLE 3

List 2—Vegetable Exchanges

#### GROUP A

Negligible carbohydrates, protein, and calories if 1 cup (200 gm.) or less is used

|                      |                |
|----------------------|----------------|
| Asparagus            | Dandelion      |
| Beans, string, young | Kale           |
| Broccoli*            | Mustard        |
| Brussels sprouts     | Spinach        |
| Cabbage              | Turnip greens  |
| Cauliflower          | Lettuce        |
| Celery               | Mushrooms      |
| Chicory*             | Okra           |
| Cucumbers            | Pepper*        |
| Escarole*            | Radish         |
| Eggplant             | Sauerkraut     |
| Greens*              | Squash, summer |
| Beet greens          | Tomatoes*      |
| Chard, Swiss*        | Watercress*    |
| Collard              |                |

The second group of vegetables in Table 3 contains more carbohydrate. They are listed as Group B.

The remainder of the vegetables contain appreciably more carbohydrate. They are included in the list of bread exchanges (Table 5).

#### GROUP B

Per serving: carbohydrate, 7 gm.; protein, 2 gm.  
(1 serving = 1/2 cup = 100 gm.)

|             |                 |
|-------------|-----------------|
| Beets       | Pumpkin*        |
| Carrots*    | Rutabaga        |
| Onions      | Squash, winter* |
| Peas, green | Turnip          |

\* These vegetables have high vitamin A value. At least one serving should be included in the diet each day.

Fruit is another source of carbohydrate. The content differs with the variety in fruit as it does in vegetables. In Table 4 the fruits have been listed in household measurements. Since each fruit in the amount listed contains approximately 10 grams carbohydrate, one may be exchanged for the other.

TABLE 4

List 3—Fruit Exchanges\*\*

Carbohydrate—10 gm. per serving

|                                 |               |
|---------------------------------|---------------|
| Apple (2-in. diameter)          | 1             |
| Applesauce                      | 1/2 cup       |
| Apricots:                       |               |
| Fresh                           | 2 medium      |
| Dried                           | 4 halves      |
| Banana                          | 1/2 small     |
| Blackberries                    | 1 cup         |
| Raspberries                     | 1 cup         |
| Strawberries*                   | 1 cup         |
| Cantaloupe (6-in. diameter)*    | 1/4           |
| Cherries                        | 10 large      |
| Dates                           | 2             |
| Figs:                           |               |
| Fresh                           | 2 large       |
| Dried                           | 1 small       |
| Grapefruit*                     | 1/2 small     |
| Grapefruit juice*               | 1/2 cup       |
| Grapes                          | 12            |
| Grape juice                     | 1/2 cup       |
| Honeydew melon (7-in. diameter) | 1/6           |
| Mango                           | 1/2 small     |
| Orange*                         | 1 small       |
| Orange juice*                   | 1/2 cup       |
| Papaya                          | 1/3 medium    |
| Peach                           | 1 medium      |
| Pineapple                       | 1/2 cup       |
| Pineapple juice                 | 1/3 cup       |
| Plums                           | 2 medium      |
| Prunes, dried                   | 2 medium      |
| Raisins                         | 2 tablespoons |
| Tangerine                       | 1 large       |
| Watermelon                      | 1 cup         |

\*\* Unsweetened canned fruits may be used in the same amount as listed for fresh fruit.

\* These fruits are rich sources of ascorbic acid. At least one serving should be included in the diet each day.



## BREAD, CEREALS, AND VEGETABLES OF HIGH CARBOHYDRATE CONTENT

Many foods of high carbohydrate content were included in one list called bread exchanges (Table 5); this was to make it easier for all those concerned with the planning of diabetic diets.

TABLE 5

List 4 — Bread Exchanges  
Per serving: Carbohydrate, 15 gm.; protein, 2 gm.

| FOOD   | APPROX. MEASURE |
|--|-----------------|
| Bread  | 1 slice         |
| Biscuit, roll (2-in. diameter)                                 | 1               |
| Muffin (2-in. diameter)  | 1               |
| Cornbread (1½-in. cube)  | 1               |
| Flour  | 2½ tablespoons  |
| Cereal   |                 |
| Cooked   | ½ cup           |
| Dry (flake and puffed)   | ¾ cup           |
| Rice and grits, cooked   | ½ cup           |
| Spaghetti and noodles, cooked                                  | ½ cup           |
| Crackers   |                 |
| Graham (2½-in. square)   | 2               |
| Oysterettes  | 20 (½ cup)      |
| Saltines (2-in. square)  | 5               |
| Soda (2½-in. square)   | 3               |
| Round, thin (1½-in. diam.)                                     | 6-8             |
| Vegetables   |                 |
| Beans and peas, dried, cooked (Lima, navy, split pea, cowpeas) | ½ cup           |
| Beans, Lima, fresh   | ½ cup           |
| Beans, baked, no pork  | ¼ cup           |
| Corn, sweet  | ½ cup           |
| Corn, popped   | 1 cup           |
| Parsnips   | ¾ cup           |
| Potatoes, white—baked or boiled—(2-in. diameter)               | 1               |
| Potatoes, white—mashed   | ½ cup           |
| Potatoes, sweet or yams  | ¼ cup           |
| Sponge cake, plain (1½-in. cube)                               | 1               |
| Ice cream (omit 2 Fat Exchanges)                               | ½ cup           |

## MEAT, FISH, POULTRY, EGGS, AND CHEESE

The foods which are high in protein have been listed in amounts that are equal approximately in protein and fat content to 1 ounce meat. Diets which include odd amounts of meat such as 75 or 105 grams are difficult to measure. Servings of 1, 2, or 3 ounces are more practical for the patient, since the food is usually purchased in these amounts.

TABLE 6

List 5 — Meat Exchanges  
Per serving: protein, 7 gm.; fat, 5 gm.

| FOOD  | APPROX. MEASURE |
|---|-----------------|
| Meat and poultry, medium fat (beef, lamb, pork, liver, chicken) | 1 ounce         |
| Cold cuts (4½-in. square, ⅛-in. thick)                          | 1 slice         |
| Frankfurter (8 or 9 per pound)                                  | 1               |
| Fish  |                 |
| Cod, mackerel   | 1 ounce         |
| Salmon, tuna, crab  | ¼ cup           |
| Oysters, shrimp, clams  | 5 small         |
| Sardines  | 3 medium        |
| Cheese  |                 |
| Cheddar or American   | 1 ounce         |
| Cottage   | ¼ cup           |
| Egg   | 1               |
| Peanut butter*  | 2 Tablespoons   |

\* Limit use or adjust carbohydrate (deduct 5 grams carbohydrate per serving when used in excess of one exchange).

## FATS

There are fewer variable factors involved in fats. The value of 5 grams fat per fat exchange was used as in Table 7.

TABLE 7

List 6 — Fat Exchanges  
Fat — 5 gm. per serving

| FOOD                     | APPROX. MEASURE |
|--------------------------|-----------------|
| Butter or margarine      | 1 teaspoon      |
| Bacon, crisp             | 1 slice         |
| Cream                    |                 |
| Light, 20%               | 2 tablespoons   |
| Heavy, 40%               | 1 tablespoon    |
| Cream cheese             | 1 tablespoon    |
| French dressing          | 1 tablespoon    |
| Mayonnaise               | 1 teaspoon      |
| Oil or cooking fat       | 1 teaspoon      |
| Nuts                     | 6 small         |
| Olives                   | 5 small         |
| Avocado (4-in. diameter) | ⅓               |

## CALCULATION OF THE DIABETIC DIET<sup>2</sup>

Nutritive adequacy of the diet will be assured by including the same "basic protective foods" that are recommended for the normal individual. These include:

|   |   |
|---|---|
| Milk                                    | 1 pint for adults<br>1 quart for children |
| Meat, fish, poultry, eggs, and cheese   | 4-5 ounces                                |
| Whole grain or enriched cereal or bread | to meet caloric needs                     |
| Fruit—one a citrus fruit or tomato      | 2 servings                                |
| Vegetables—one green or yellow          | 2 servings                                |
| Butter or fortified margarine           | to meet caloric needs                     |

The actual calculation of the diet can be reduced to a simple formula, as shown in table 8. To determine the number of servings of bread, meat, and fat exchanges required to complete the diet prescription, it is necessary only to:

(a) Subtract the number of grams of

carbohydrate (61 in the example in the table) furnished by the other sources of carbohydrate from the amount prescribed (180) and divide the result by 15, the number of grams of carbohydrate in one serving of bread exchange as noted in List 4.

TABLE 8  
Procedure for Calculating a Diabetic Diet

| Sample Prescription  |            |                     |                |            |
|--|------------|---------------------|----------------|------------|
| Carbohydrate .....   | 180 gm.    |                     |                |            |
| Protein .....  | 80 gm.     |                     |                |            |
| Fat .....  | 70 gm.     |                     |                |            |
| Calories .....   | 1700       |                     |                |            |
|  | Amount     | Carbohydrate<br>gm. | Protein<br>gm. | Fat<br>gm. |
| Milk, whole (List 1)                                       | 1 pt.      | 24                  | 16             | 20         |
| Vegetables (List 2, Group A)                               | as desired | —                   | —              | —          |
| Vegetables (List 2, Group B)                               | 1 serving  | 7                   | 2              | —          |
| Fruit (List 3)   | 3 servings | 30                  | —              | —          |
|  |            | —                   |                |            |
| Total carbohydrate from sources other than bread exchanges |            | 61                  |                |            |
| 180 gm. carbohydrate in prescription                       |            |                     |                |            |
| -61 gm. from sources other than bread exchanges            |            |                     |                |            |
| 119 ÷ 15 = 8 bread exchanges                               |            |                     |                |            |
| Bread exchanges (List 4)                                   | 8 servings | 120                 | 16             |            |
|  |            |                     | —              |            |
| Total protein from sources other than meat exchanges       |            |                     | 34             |            |
| 80 gm. protein in prescription                             |            |                     |                |            |
| -34 gm. from sources other than meat exchanges             |            |                     |                |            |
| —  |            |                     |                |            |
| 46 gm. ÷ 7 = 7 meat exchanges                              |            |                     |                |            |
| Meat exchanges (List 5)                                    | 7 servings |                     | 49             | 35         |
|  |            |                     |                | —          |
| Total fat from sources other than fat exchanges            |            |                     |                | 55         |
| 70 gm. fat in prescription                                 |            |                     |                |            |
| -55 gm. from sources other than fat exchanges              |            |                     |                |            |
| 15 gm. ÷ 5 = 3 fat exchanges                               |            |                     |                |            |
| Fat exchanges (List 6)                                     | 3 servings |                     |                | 15         |
|  |            | —                   | —              | —          |
|  |            | 181                 | 83             | 70         |

(b) The amount of protein in the diet may be adjusted to the prescription by subtracting the number of grams of protein (34 in the example) supplied by milk, vegetables, and bread exchanges from the amount prescribed (80) and dividing the remainder by 7, the amount of protein in each meat exchange.

(c) Follow the same procedure with regard to fat, except to divide the result by 5, the number of grams of fat in one serving as noted in List 6.

The diet is figured to coincide as closely as possible with the prescription. However, it is not practical to split bread or meat exchanges into halves or to add extra fruits and vegetables if the patient doesn't care for larger amounts. Therefore, the carbohydrate may vary as much as 7 grams from the amount ordered and the protein may differ by 3 grams. The fat will agree closely with the prescription, since the figures for fat are all in multiples of five.

#### SAMPLE DIETS

In addition to the "Exchange Lists," nine sample diets have been worked out on different caloric levels ranging from 1200 to 3500. Three of these are especially for children. These are given in a pamphlet called "Diabetic Diet Card for Physicians" which also includes the "Exchange Lists" and the guide for selecting the dietary prescription.

#### NEW SUPPLEMENTARY MATERIALS

Two additional diet leaflets have recently been made available. They are modifications of the "Exchange Lists" for sodium-restricted and bland, low-fiber diets.<sup>5, 6</sup>

#### EXCHANGE LISTS WIDELY USED

In 1953, a report was published regarding the acceptance of this material.<sup>7</sup> According to this report, over a two year period, from January 1951 through December 1952, the following figures are given:

Hospitals and physicians in 47 states, the Territories of Hawaii and Puerto Rico, and the District of Columbia are using these diets;

At least 900 hospitals in the country have adopted this method of diabetic meal planning;

Approximately 110 physicians have obtained the "meal planning" booklet in quantity for use with patients; and

Seven camps for diabetic children, out of a total of approximately nineteen in the country, are using this method of meal planning.

The booklet "Meal Planning with Exchange Lists" will be invaluable to the diabetic in planning his meals when he leaves the hospital and the diabetic meal plans will save many hours of professional time for the physician.<sup>8</sup>

#### SUMMARY

The food exchange system of calculating diets is the simplest yet devised for patient, dietitian, and physician. The common foods allowed the diabetic are divided into six groups. Within each group are listed the kinds and amounts of foods with approximately the same nutritional value of carbohydrate, protein and fat. Thus, any item in a given group or list may be exchanged, in the amount indicated, with any other item in that list; but not with items in other lists. Each item, in its appropriate quantity, is known as a food exchange.<sup>9</sup>

This material is being used extensively throughout the country by physicians and hospitals, as well as being incorporated into medical, dietary, and nursing textbooks. It has been estimated that nearly 100,000 copies of "Meal Planning with Exchange Lists" are distributed annually.

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## PULMONARY TUBERCULOSIS: A REVIEW OF CLASSIFICATION CHANGES

E. W. HAINLEN, M.D.\*

The only justification for a discussion of the subject is the expressed mystification of the family physician when he receives his patient back from the tuberculosis hospital with a discharge summary announcing the dynamic status to be "Active Improved", when the least he had hoped for was "Arrested", a term which had become familiar through long usage and which inspired confidence in the future of the patient. The latter term does not appear in the 1955 edition of the "Diagnostic Standards and Classification of Tuberculosis",<sup>1</sup> which was the 10th and latest revision by the Medical Section Committee of the National Tuberculosis Association.

To paraphrase the introduction to the 1950 edition,<sup>2</sup> "a clinical classification of tuberculosis, through ephemeral, is useful. On it depends such matters as legal requirements for isolation, medico-legal considerations with respect to compensation for disability, standards for the return of patients to work". Industrial personnel managers, health officers, insurance adjusters are classification-minded, and with the late developments in the Department of Health, Education and Welfare, and the various

aspects of Social Security, the medical reports called for require niceties of judgment in submitting fair prognoses.

The aim of the Diagnostic Standards Committee has always been the distinction between active and inactive tuberculosis, and the last revision deals with only those two groups.

To comprehend the evolution of the classification process, we must go back beyond 1950, when the dynamic status of a patient showing progressive improvement was expressed by the steps: Active (Unimproved or Improved); Quiescent; Apparently Arrested; Arrested; Apparently cured.

By 1950 it was felt that our bacteriological methods had so improved that we regarded no case as sputum negative unless there were three *adequate* specimens of sputum or fasting gastric contents, taken at least a *week* apart, found negative by culture or animal inoculation. The 1950 revision thereupon deleted "Quiescent", "Apparently Arrested" and "Apparently Cured", and an example of the transposed groups became more or less like this:

|                           |             |                       |
|---------------------------|-------------|-----------------------|
| Active .....              | became..... | Active                |
| Quiescent .....           | " .....     | Active Improved       |
| Apparently Arrested ..... | " .....     | Arrested (3 mo.) III* |
| Arrested .....            | " .....     | Arrested (6 mo.) IV*  |
| Apparently cured .....    | " .....     | Inactive (3 yr.) V*   |

\* Roman Numerals refer to exercise status: I—Bed rest, II—Semi-ambulatory, III—Ambulatory, IV—Full activity.

The Roman numerals coded the "exercise limits" and with the increased use of chemotherapy these limits have been further liberalized. Under this 1950 revision an "arrested" case could have consistent posi-

tive cultures and even an occasional positive concentrate, as long as he was asymptomatic and had a stable or slowly improving x-ray, with no cavity.

The 1955 revision, which is the principal area of discussion here, followed on the heels

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of increased use of body section radiography when we were often chagrined to have the planogram show open cavities in the same cases where postero-anterior routine films indicated healed lesions. With that came a more rigid tightening of the bacteriological standards, and the definition of a negative sputum called for three adequate specimens taken a *month* apart (instead of a week) to be negative by culture or animal inoculation.

The "Inactive" case, then, must now be: (1) asymptomatic; (2) the roentgenogram must be stable or showing *extremely* slow shrinkage, and with no cavity; (3) the bacteriology must be negative by culture or animal inoculation of sputum, fasting gastric contents, or (to the perfectionist) aspirated bronchial secretions. The recommendation is that "all these conditions shall have existed at least *six* months—and that this designated period does not include and is in addition to the *six* months required for the determination of inactivity".

It is quite obvious that except in cases where resectional surgery is done after three to six months of rest and antimicrobial therapy, it will be quite difficult to hold patients within sanatorium or hospital walls long enough to achieve the standard of "Inactive" status as stated above.

Anything less than the above, in an improving patient, is necessarily classified as "Active Improved" when he has shown a microscopically negative sputum for three months along with the other two requirements of stabilizing x-rays and no clinical symptoms. The status is further indicated by parenthetically adding the number of months the stabilizing period has existed, as "Active Improved (5 mo.) III." The Roman numeral "II" indicates his physical activities have reached a total period of four hours out of bed daily; "III" puts him in the Ambulatory group with shop work and other activities; and "IV" means ordinary living conditions.\*

When he has achieved an "Active Improved (6 mo.) IV" status, it must be assumed that he is comparable to the "Arrested" case of former days, and a good many cases are eligible to return to ordinary life and work, particularly those who continue to receive antimicrobial therapy under domiciliary supervision and cooperate in periodical x-ray and bacteriological examination.

#### REFERENCES

1. Diagnostic Standards and Classification of Tuberculosis: New York, 1955. National Tuberculosis Association.
2. *Idem.*: 1950.

\* See footnote on page 222.

## REPORT ON 100 CONSECUTIVE TUBERCULOSIS CASES TREATED FOR THE FIRST SIX MONTHS OR MORE IN HOSPITAL

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Since July 1, 1952 it has been the policy at the E. P. Bissell Hospital to treat all patients with triple drug therapy in the usual doses (streptomycin Gm. 1.0 twice weekly; sodium paraaminosalicylate (PAS) Gm. 12.0 daily; isoniazid (INH) 3 to 5 mg./kilo. of body weight daily). The patients in this report comprise a highly selective group in that they all received triple drug therapy for at least six months, and were hospitalized for the same period. They also were a special group in that, as far as we know, they were virgin cases, i.e. they had not previously received antimicrobial therapy for tuberculosis. Some of these patients have had, in addition to drug therapy, either thoracoplasty or excisional surgery, and after discharge from this hospital were receiving various combinations of drugs (Streptomycin, PAS; PAS, INH; Streptomycin INH; or Streptomycin, PAS, INH.), or received no further drug therapy.

Of the 100 cases in this study, 96 had positive sputum examination for the tubercle bacillus at the beginning and no reports are available on four. There were no negative sputum examinations. The status of sputum examination is shown in Table I for a 6, 12, and 24 month period. The dynamic status of the cases at the end of 24 months is shown in Table II.

As can be seen from the tabulated results, 5% or less of patients were proven positive at any time during the 24 months of study. The two patients who reverted to positive between 12 and 24 months had discontinued long term therapy of their own volition and

had x-ray reactivation as well as positive sputum. They promptly responded to re-institution of therapy.

73% of the total had stable x-rays, no cavitation on planography and negative sputum at 24 months, and this represents 85% of the patients still alive and regularly attending the Chest Clinic.

7% of the total had stable x-rays but had not submitted sputum in recent months and were classified as active improved, although some denied any expectoration and probably had negative sputum.

6% had died, the usual cause being hypertension in the lesser circulation secondary to fibrosis and emphysema. These added to the 73% negative made 79% non infectious or 88% of those actually followed to completion of 24 months.

9% were lost to regular clinic follow up and the drop in the number of proven negatives parallels the number lost to follow up or not submitting sputum for examination. Some of the patients lost to follow up may be under the care of private physicians and some may be well, requiring no medical attention.

Robins and colleagues<sup>2</sup> have stated, "The most valued measure of the success of such a program from the public health point of view is the proportion of the entire group of unhospitalized patients whose disease can be considered stable and non-infectious two years after the start of treatment. In arriving at such a figure one must include in the total all patients who lapsed from clinic attendance while their disease was still active and those hospitalized for tuber-

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culosis after an adequate period of antimicrobial therapy in the clinic. On this basis 36.7% of the patients given drugs for at least four months could be classified as having attained arrest of their disease at the end of two years of observation. By applying similar criteria, 49.0% could be considered to have converted their sputum to a non-infectious state during this period.

TABLE I  
SPUTUM

| SMEAR AT 6 MONTHS  |      |           | CULTURE AT 6 MONTHS  |      |           |
|--------------------|------|-----------|----------------------|------|-----------|
| Pos.               | Neg. | No report | Pos.                 | Neg. | No report |
| 3                  | 97   | 0         | 2                    | 98   | 0         |
| SMEAR AT 12 MONTHS |      |           | CULTURE AT 12 MONTHS |      |           |
| Pos.               | Neg. | No report | Pos.                 | Neg. | No report |
| 3                  | 88   | 9         | 3                    | 88   | 9         |
| SMEAR AT 24 MONTHS |      |           | CULTURE AT 24 MONTHS |      |           |
| Pos.               | Neg. | No report | Pos.                 | Neg. | No report |
| 5*                 | 73   | 22**      | 5                    | 73   | 22**      |

\* 2 promptly became negative on re-commencing therapy and are negative at 36 months on smear and culture.

\*\* 6 died and are therefore non-infectious.

TABLE II  
DYNAMIC STATUS AT 24 MONTHS

| Inactive | Active Improved | Active | Died | No Report |
|----------|-----------------|--------|------|-----------|
| 73       | *7              | 5      | 6    | 9         |

\* Active Improved — in most cases refers to cavity still present on planograms but x-ray stable and sputum negative; or may refer to stable x-ray but sputum occasionally positive on smear or culture. The criteria for dynamic status are taken from the 1955 edition of Diagnostic Standards of the National Tuberculosis Association.<sup>1</sup>

"Certain unfavorable features have been also noted in connection with the drug treatment of non-hospitalized patients with tuberculosis. Progression of the disease occurred in 12% of all patients. Moreover, tubercle bacilli were still present in the sputum of 100 of the 256 originally infectious patients after twenty-four months of antimicrobial therapy. Sixteen patients died

of tuberculosis during the period of observation".

Summary: A comparison is made with a highly selective group of hospitalized patients receiving triple drug therapy and a group of non-hospitalized patients receiving INH and PAS. The highly selective group were all virgin treatment cases and all had a minimum of six months of hospitalization. Some had drug therapy during the whole of the two year period and some had surgical therapy. After discharge from the sanatorium only two drugs were used as a rule. Of this group only 5% were known to be infectious at the end of two years and on 22% there was no report, but only 9% were lost to follow up, making 79% of the original series non-infectious or 88% of those actually followed to the end of 24 months.

In the non-hospitalized series 49% could be considered to have converted their sputum.

Whereas 73% of our cases were classified as Inactive, and 7% as Active Improved, making 80% fulfill the criteria of Arrested, only 36.7% of the other series were classified as Arrested.

CONCLUSION: The results of treatment with reference both to dynamic status and infectiousness in 100 virgin cases, hospitalized for at least six months are very good, and are much superior to those in an unselected group of non-hospitalized patients treated with drugs for a minimum of four months.

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## MUTUAL COOPERATION FOR THE DEVELOPMENT OF A POISON INFORMATION SERVICE

ELMER F. FANTAZIER, M.D.\* AND MARK KENYON, Ph.D.\*\*

Public Health practices and preventive medicine, the application of new medical skills, immunizing agents, and drugs, have changed the leading causes of death and disability. Nowhere are these changes more striking than in the younger age groups of the population. However, there is one discordant fact in this optimistic resume of the achievements of preventive medicine. One cause of preventable and wholly unnecessary cause of death and disability which has not kept pace with its mates of yesteryear is accidents. This singular category is increasing rather than decreasing.

It is a startling fact to realize that accidents of varying types cause over 100,000 deaths and 10 million injuries in this country every year. The seriousness of this new public health challenge has brought it to the attention of official, voluntary, and private public health and medical agencies throughout the country. Health departments have become particularly aware of their new responsibilities and are actively concerned with the public health aspects and affects of deaths and disabilities from accidents. It is now generally recognized that accidents constitute a major problem in public health. The loss of life and incapacity resulting from accidents is as great as, or greater than, that from any disease entity.

Recently, a new category of accidental death and injury is receiving increasing emphasis. This new area is poisoning due to the accidental ingestion of some common household product. We refer to the ready-made and often highly toxic materials made

by modern industry and used in millions of households to clean clothes, kill flies and rats, provide heat, and accomplish many other everyday tasks.

The greatest potential accidental poisoning hazard lies in the fact that thousands of products containing new chemicals, and old stand-bys in new combinations, are being marketed for home use. Store shelves in family shopping centers offer an ever-increasing variety of cosmetics, medicines, detergents, cleaning, polishing, deodorizing agents, paints and solvents, fertilizers, pesticides, weed-killer, and innumerable other products designed to make life simpler. Not a week goes by without the addition of some new brand to the list of things people are urged to try, either on themselves, their children, home garden or hobby. Valuable and harmless as all these products are when properly used, everyone of them, from aspirin to the latest detergent, is a potential poison if misused.

The National Safety Council reports that every day last year, an average of four persons accidentally swallowed enough of some poisonous substance at home to cause death. The particularly tragic fact is borne out that more than one-third of the total number of deaths from accidental poisoning occur among children under five. As those familiar with child growth and development know, this is the runabout, exploring, hand-to mouth stage when activity is intense, curiosity is insatiable, and experience and education practically non-existent.

Old drugs and old prescriptions left around the house where children can get into them and sweetened, flavored pediatric aspirin are the biggest killers. Well mean-

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\*\*Director—Program for Prevention of Crippling, Delaware State Board of Health.

ing parents often encourage children to take the "candy aspirin" and all too often the attractiveness of this medication results in the child taking an overdose when left unsupervised.

Although the number of different substances ingested by children are many, the majority of fatal childhood poisonings can be attributed to a few common drugs and chemicals. The following list is the experience in the two years 1949 and 1950 in this country.<sup>1</sup>

**SUBSTANCES RESPONSIBLE FOR DEATHS FROM ACCIDENTAL POISONING OF CHILDREN UNDER 5 YEARS, UNITED STATES, 1949 AND 1950**

|                           | Number | Percent |
|---------------------------|--------|---------|
| Drugs                     | 113    | 33.     |
| Aspirin and Salicylates   | 113    |         |
| Barbiturates              | 31     |         |
| Miscellaneous Drugs       | 132    |         |
| Petroleum Products        |        | 25.     |
| Especially kerosene       | 210    |         |
| Material for External Use |        | 36.     |
| Lead                      | 66     |         |
| Corrosive substances      | 60     |         |
| Arsenic                   | 42     |         |
| Miscellaneous             | 132    |         |
| Noxious Foodstuffs        | 8      | 1.      |
| Unclassified              | 40     | 5.      |
|                           | 834    | 100.    |

The miscellaneous fatal group and many of the nonfatal poisonings are the result of ingestion of a vast multitude of different agents, many of which are new synthetic chemicals.

In 1951, 80% of the aspirin deaths occurred in children under five years of age. In New Bedford, Massachusetts, during 1955, approximately 100 youngsters received emergency treatment at St. Luke's Hospital or in doctors' offices for accidental poisoning.<sup>2</sup> Aspirin — both the adult and flavored "baby" type — was the *number one* offender. Other commonly ingested medicines included prescription drugs of all types, vitamins, cough medicines, reducing tablets, laxatives, rubbing alcohol, and oil of wintergreen. During 1954, of 74 cases of

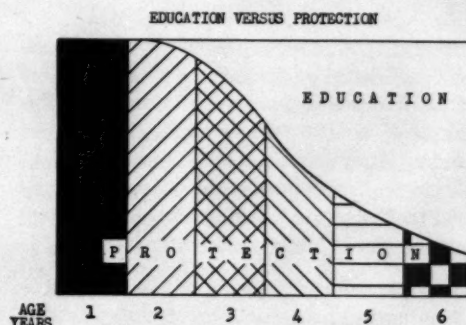
accidental poisoning reported in Greater New Bedford:<sup>2</sup>

*Medicines* were responsible for 61% of the cases.

*Household products* were responsible for 34% of the cases.

*Rodent and insect poisons* were responsible for 5%.

The accompanying pie chart and graph (Figure 1) illustrate further the child acci-



**TYPES OF POISONS INGESTED  
ST. LUKES HOSPITAL  
0-16 YEARS**

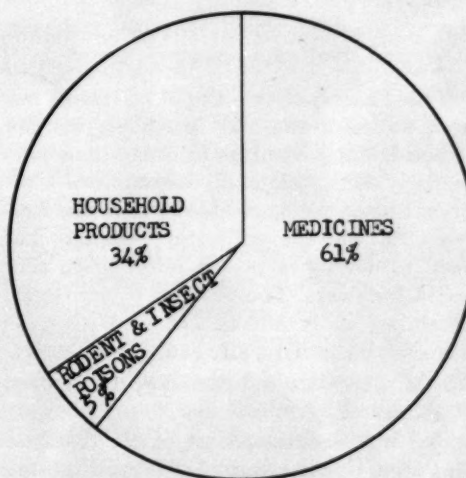


FIGURE 1

Chart and graph prepared from data contained in reference 2.



dental poisoning experience of the St. Luke's Hospital in New Bedford. The graph seeks to contrast the amount of education versus protection required by children from birth to six years of age. It is important to note — that during the first year of life — a child requires absolute protection. As the age of the child advances, education can supplant some of the needed protection.

In the United States in 1952 there were still 1440 deaths as a result of accidental ingestion of poisons.<sup>3</sup> One-third of these were in the first five years of life.

Mortality figures scarcely begin to show the significance of the poison problem. Kerlan estimates the number of non-fatal poisonings to be 100 or 150 times the number of fatalities. There were approximately 150,000 cases of accidental poisoning that survived in the United States last year, 50,000 of which were children under five.<sup>4</sup>

The nature and toxicity of the multitude of new and old products are frequently difficult, and almost impossible, to determine because of their non-revealing benign trade names or numbers and the reluctance of manufacturers to release so-called "trade-secrets". The physician who is called upon to treat a known or suspected case of poisoning cannot be expected to keep abreast of developments in the field of synthetic chemistry and toxicology. Time is often the commodity which is most critically lacking in treating a poisoned person.

The Delaware State Board of Health has been aware of the ever increasing number of accidental poisonings for some time, particularly the accidental poisoning of children. One of the basic objectives of the Program for the Prevention of Crippling has been to develop a poison information center in Delaware. The problem of accidental poisoning as it affects Delaware's people has also concerned many of Delaware's physicians. A natural outgrowth of this mutual concern and awareness of responsibility resulted in the development of a Committee on Poison Control at the Delaware Hospital. This committee represents members of the New Castle County Medical Society, the Association of Delaware Hospitals, Dela-

ware Pharmaceutical Society, and the Delaware State Board of Health.

The committee soon realized what a monumental task it had undertaken. Thousands of products are being screened, their ingredients listed and their antidotes agreed upon. The Committee was aided greatly in this respect by the Florida Pediatric Association. A simple working poison reference file containing 800 product listings and antidotes was obtained from this group. This basic reference file has been increased and supplemented with recommended texts on poisonings. This reference library, procured by the State Board of Health, literally adds thousands of additional listings to the Center.

The new center began to function on a limited basis in March of 1957 and is entitled *The Delaware Poison Information Service*. This new service, located in the Delaware Hospital in Wilmington, has been organized to serve as a comprehensive poison information center to aid the physician. A new direct telephone has been installed adjacent to the Hospital Pharmacy. *The number is (Wilmington) OLympia 5-3389 Ask for the Poison Center.*

During the time the pharmacy is open (9 a.m. to 5 p.m. week-days and 9 a.m. to 4 p.m. holidays and weekends) the pharmacist will answer all incoming calls to the Poison Information Service. Physicians will be given the complete pharmacological information and medical information available. Lay persons will be given the commonly accepted first aid information such as is available in first aid manuals. Lay persons will be asked to go to the nearest hospital or their doctor's office. The Poison Control resident will follow up with a call to the doctor or hospital of choice. The call will be recorded in a special log book prepared for this purpose.

Incoming calls at times other than the time the pharmacy is open will be taken by the Emergency Ward clerk. If a physician calls, his name and number will be taken. The resident taking calls for the Poison Information Service will be put on special page. If he does not answer within

10 minutes, the intern will be asked to call the physician and give the information from the card file.

Thus information is available to all physicians and laymen as an emergency service on a 24-hour basis. The center is set up on a cardex system consisting of two basic files. One file consists of "Product Listings". The second file contains recommended treatment procedures. The information consists of white and yellow cards in separate drawers. Each white card contains the name of a poison or poison-containing product and the ingredients contained therein. The white card refers to one of the yellow cards on which are listed the toxic or poisonous chemicals, common sources, degree of toxicity, signs and symptoms of poisoning, the treatment, and also further references if necessary. In this way, information may be given quickly to anyone calling for it. All recommended and necessary drugs and equipment needed for treatment of a poison case are stocked and available in the emergency room.

#### General Objectives of Poison Information Service.

1. Stock antidotes, equipment and literature at center.
2. Set up reference library of books, trade journals, and other periodicals at center. (A list of available references will be made to all interested parties or persons.)
3. Keep references on recent papers and articles on poisonings.
4. Speakers bureau to give talks or participate in educational programs for the public through organized groups.
5. Compile and distribute literature, charts and general information on poisoning to clinic patients and to the general public.
6. Cooperate with other agencies.
7. Educate staff by bringing information into staff meetings concerning progress of center, accidental poisoning, treatment and antidotes.

A handbook entitled, "Procedure Book for the Management of Accidental Poisoning" has been developed as a first-aid resource for the physician and the hospital emergency ward.

This procedure book has been developed for the purpose of providing Delaware physicians with a ready source of information as to the procedures to be followed in managing cases of poisoning. It is specifically geared to getting the right thing done as early as possible and putting the doctor in touch with more adequate information when the active ingredients in the poison cannot be discovered locally. The procedure book will be distributed to all Delaware Physicians in the near future. This procedure book does not claim to be an innovation in the now encyclopedic field of poisoning due to household substances. It was developed as a guide to action rather than as a source book.

The Delaware Poison Information Service has been patterned after its Chicago predecessor, developed under the leadership of Dr. Edward J. Press. It is one of many centers now being operated in the United States. These reflect the concern of Pediatricians for the needless toll of children whose explorations in and about the home expose them to a growing list of poisonous preparations whose nature it is getting harder and harder to ascertain. The Committee on Accident Prevention of the American Academy of Pediatrics has taken the lead in developing this activity which now begins to assume the proportions of a national movement involving a number of health and accident prevention agencies.

The important and critical need for a national clearing house on poison information has been recognized by the U. S. Department of Health, Education and Welfare.

At the request of the American Public Health Association, the Public Health Service is establishing a National Poison Information Center. Information from state and local Centers will be collected by this Center and there tabulated for later distribution to existing Centers and New Centers.

The first job in any program to reduce morbidity and mortality from accidental poisoning in children is educational. Dr. Katharine Bain has estimated that if salicylates, barbiturates and kerosene were made unavailable to children, two-thirds of the present mortality could be eliminated.

Better labeling can help the doctor and alert the parent, but it will never stop the young explorer from inquiring into the nature of this wonderful new world. It therefore behooves the practitioner to give early and repeated counsel on this subject to parents, parent groups and to support publicity about the prevention of poisoning. A useful starting point for educating parents concerning the dangers lurking in their homes is to advise a room-to-room inventory with careful safeguards of all possible poisons. As a reminder of particular places and poisons, a checklist similar to the one listed below is helpful.

**KITCHEN**—about kitchen sink, soaps, detergents, lye (Draino).

**ELSEWHERE**—silver polishes, furniture polishes, waxes, shoe cleaners and polishes, bleaches, dry cleaning solutions, window cleaners. If kerosene stoves are used, eliminate drip cans.

**BATHROOM**—The medicine cabinet should be out of reach and preferably locked. A minimum of drugs should be kept in the house. Particular care should be taken with barbiturates, aspirin, digitalis, eye drops, antispasmodics, reducing pills and opiates.

**CELLAR-WORKSHOP**—paints, especially lead-containing, turpentine, kerosene, paint removers, paint brush cleaners, and methyl alcohol.

**GARAGE**—insecticides, fertilizer, gasoline, kerosene, antifreezes, and fire extinguishers.

**GARDEN**—poison ivy, wild mushrooms and weed-killers.

The important point has been made that "harmless" medicines and household products can easily become deadly poisons when carelessly left within the reach of young

children. The following poison case histories may serve to further emphasize this contention. These cases and many others have already been treated by poison centers.

| TOXIC AGENTS | AGE    | SEX    |
|--------------|--------|--------|
| BENZINE      | 3 yrs. | Female |

Mother poured benzine into a Pepsi Cola bottle. She intended to use the benzine for removing paint from her coat. She left the bottle with the benzine on a table in the kitchen while she took an older sibling to school. In the meantime, the youngest child obtained the bottle and ingested about six ounces of its contents. The child had burning in the mouth and throat, nausea, marked vomiting, diarrhea and dyspnea. She was taken to the hospital where she remained for several days and was treated with stomach lavage and supportive therapy. This case illustrates the relative inconsistency of benzine ingestion. This child made a complete recovery with the ingestion of a very large amount of benzine, whereas ingestions of smaller amounts have resulted in fatalities.

|         |          |      |
|---------|----------|------|
| RENUZIT | 1½ years | Male |
|---------|----------|------|

While playing in the kitchen with an older sister the child obtained the bottle of Renuzit which was stored on the kitchen floor under the sink and ingested five ounces of its contents. The child was found in a coma and taken immediately to the hospital emergency room where his stomach was lavaged and he was sent home after he regained consciousness. (Renuzit is a light petroleum hydrocarbon).

|           |          |       |
|-----------|----------|-------|
| RESERPINE | 2-3 yrs. | Males |
|-----------|----------|-------|

While mother was busy feeding baby, two children (2-3 yrs. of age) opened mother's purse and obtained a pillbox containing reserpine. Between them they ingested 25 tablets. Children became stuporous and were taken to the hospital where they were treated with induced vomiting and stomach lavage. Both made a complete recovery after a one day stay.

**ANOREXIC DRUG POISONINGS**  
**AN INCIDENT OF "PRELUDIN"**  
**INGESTION (Phenmetrazine**  
**Hydrochloride)**



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Attention is called to the dangers of amphetamine and dexedrine ingestions.

Reports of ingestion of these compounds, both the regular and prolonged absorption kinds are being received regularly.

A new anorexic drug, structurally different from the amphetamines is "Preludin" which recently received wide promotion. The first poisoning, reported from this compound had alarming symptoms very similar to amphetamine intoxication.

2½ yrs. Female

A child, one of four siblings, climbed on a chair and obtained the medication from a shelf in a cabinet. Mother believes child put about 15 pills in a glass of water then drank contents. Within a short time, mother noticed child was very excited, talkative and with involuntary movement of the hands. The child was given a emetic as a first aid measure and then taken to the family physician about two hours after ingestion. At that time, there was incessant talking and marked tremors. Since no improvement was noted, the physician referred the child for hospitalization. On admission to the hospital, four hours following the ingestion, the same symptoms of excitement, tremors and incessant talking were noted. The child was sedated with sodium phenobarbital gr. ½ intramuscularly every four hours for 36 hours before the exciting effect was completely eliminated. The child was finally discharged in good condition.

Physicians dispensing or prescribing anorexic or reducing drugs of any kind are urged to warn adults about the potential hazards to children and the necessity of keeping such drugs securely out of their reach. Physicians are also requested to label properly and legibly any medication which they dispense, and to use appropriate containers for such distribution.

SELSUN—(Selenium Sulphide)

15 mos. Female

Father who is a pediatrician received a sample of Selsun in the mail. The bottle containing Selsun was left on the edge of the tub in the bathroom. The father had used it as a dandruff remover. The child went into the bathroom, obtained the Sel-

sun and ingested some of its contents. Since the child was asymptomatic and since the father was a pediatrician, he gave the patient milk as a first aid measure and child apparently made a full recovery. Although the Selsun bottle has a poison label, it appears that the ingestion of Selsun does not present a major emergency primarily because of the insolubility of Selenium Sulphide and the presence of the soap which is a "built-in" emetic.

No poison information center, however complete, and no program of public education, however thorough, can completely control and prevent these needless poisonings. The beginning and the end of any poison control program must be founded within the individual home. Parents have the first and major responsibility to see that potentially harmful materials cannot find their way into the curious hands and ever receptive mouths of young children. All the products named and enumerated in this article should be kept in a place inaccessible to children. This does not mean that the high shelf will do. A normal child will only find the high shelf an additional incentive for climbing. Therefore, we only succeed in superimposing the danger of falls upon the existing danger of poisoning.

From April 1 to June 15, 1957, the Delaware Poison Information Service served 26 requests for specific information regarding poison cases.

Accident prevention is a community problem. The Delaware Poison Information Service therefore does not aim to supplant the local solution for the local problem. The parent in the home, the local practitioner and the community hospital are the prime agents for meeting the challenge of accidental poisoning in childhood.

#### SUMMARY

1. Preventive medicine and public health has succeeded in controlling and preventing most of the communicable and infectious diseases of the past.
2. The new areas of concern to medicine and public health today are the degenerative diseases and the problems of accident control.

3. Mutual concern regarding the problem of accidental poisoning in children and adults has led to the development of the Delaware Poison Information Service.
4. This new service has been designed primarily as a free emergency information service for physicians.
5. The emergency Delaware Poison Infor-

mation Service number is (Wilmington) OL 5-3389.

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## THE MENTAL RETARDATION PROGRAM OF THE STATE BOARD OF HEALTH

FRED A. STONESIFER, PH.D.\*

The problems and needs of mentally retarded individuals are of long standing. Individuals who function at an inferior level of intellectual efficiency have been known from time immemorial. Lately, however, there has been increasing interest in this problem — not only at the state level, but locally, as well as nationally. Emphasis of the immediate concern for retarded children stems from recent efforts of parents who have organized in order to obtain more adequate services for their children. The State Board of Health is aware of the needs of retarded children, and has directed that the program to be described below should be brought into being. It is not clear immediately how such a program should be implemented. Retarded children who are in the public schools receive a number of services through the State Board of Education. Also, adults and children, as well, are referred to the State Mental Hygiene Clinic for service. In this respect services were already available to portions of the Delaware population who are retarded.

There was one area which seemed to be the particular responsibility of no certain agency or office. This was the area of the pre-school child. After some inquiry and investigation, it appeared that it would be appropriate for the Division of Maternal and Child Health to direct its efforts for the mentally retarded towards the needs and problems of children in this group. It was felt that the already-functioning Well Child Conferences would be a good source of referral of children suspected of being mentally retarded. Pediatricians and nurses, with their close contact with a number of families

were in a strategic position to help with the early location of retarded children.

The program considered would be one of early identification of the retarded child, his diagnosis, the evaluation of his abilities and capacities, the development of a program for him, continued contacts with the family to help them understand and accept him, and counseling for the parents if it is indicated and desired. Not every family would want all of these services, but it is intended that they shall be available where and if they are needed.

The public health nurse is seen as the key figure in this program. She first is aware of the case—in the home or in the clinic—and as the child is followed she remains in close contact with him and the family. After the psychological examination and evaluation of the child, it is the nurse who carries out the recommendations that are made. Her continuing contact with the family makes her the ideal member of the team to bring together the findings of the various staff members, and work with the family towards carrying them out.

So that everyone might understand what it is that is being presented, a few definitions ought to be given. A recent conference convened by the Macy Foundation suggests a definition which seems to be useful in the present situation: "Mental Retardation is a symptom which may be permanent or temporary, and which manifests itself in a given environment by social inadequacy, due in whole or in part to intellectual limitation". This definition will not suit all workers in the field. The traditional concept of mental deficiency or feeble-mindedness has been abandoned in

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Division of Maternal — Child Health

favor of a more comprehensive concept. Mental retardation is a sub-normal deviation, either temporary or permanent, while mental deficiency or feeble-mindedness, usually is thought of as a permanent, irreversible condition associated with an impaired and defective intellectual functioning. In many situations where mentally retarded individuals are being discussed and planned for, the term "mental defective" or "feeble-minded" might better apply. However, it is not the present purpose to resolve the confusion surrounding terms in the field. It will be sufficient in this paper to use the term "mentally retarded" to encompass any individual whose intellectual functioning is impaired and inadequate in the social situation in which he finds himself.

The moderately retarded are those who are potentially capable of developing competence in social and economic performance. This group is often referred to as "an educable group" for school purposes. A number of factors are involved in determining whether or not an individual belongs in this group. Included are cultural background, social development, speech deficiency, physical abnormalities, and emotional conflicts. The measure of general intellectual performance, usually reported in terms of intelligence quotient (IQ) is also part of the total clinical evaluation. While this measure of performance, reported in terms of IQ is usually considered to be between 50 and 75, deviations are often found, and frequently qualitative aspects in the general clinical outlook are more important than the quantitative ones.<sup>2</sup>

A second group of individuals often referred to as "severely retarded," are those who can achieve a limited degree of personal social adjustment and competence for economic usefulness. This group commonly has an IQ score below 50, perhaps as far down the scale as 30. However, again the numerical quotient is not the important aspect to be considered. The child's potentialities for social adjustment, speech development, ability to follow directions and to care for his own needs, are by far the more important criteria.<sup>2</sup> It is this group of the population about whom so much

thought is being given regarding training as opposed to education. It is commonly thought that formal academic study is of minimum value to this group, and that they can benefit most by being given training in those simple and ordinary tasks which they are able to learn. This is best determined on a trial and error basis, although in time research ought to establish data which will lead to greater understanding of the capacities and potentials of this group of the population as well as methods and procedures for their training. Specific training for all kinds of workers in the field is also an area which ought to be investigated.

There remains a third group of retardates whose capacities and functioning is below the two groups already mentioned. This group, whose social incompetence and lack of understanding, necessitates long-time or permanent care in their own homes or in suitable institutions, is known as "custodial retardates" or "dependent retardates". They apparently have little capacity for training or occupational usefulness and social competence.<sup>2</sup> Included in this group would be the severe nursing problems and the serious medical problems that require considerable attention on the part of trained personnel.

In any public health program, prevention is usually considered to be a major aspect. However, the present program is considered to be a service one and will concern itself with prevention only in respect to psychological problems which might occur in the family—both with the child involved, or with others in the family, including the parents. Referring again to the Macy Conference<sup>1</sup>, this seems to be an area in which service can be given so that serious problems do not develop. While any illness or disability may be reason for maladjustment to occur in the family, the feelings and attitudes associated therewith may result in much greater problems than the disability itself.

In a culture such as our own, intellectual efficiency is highly prized by many people. Where intellectual limitations exist in the family, it has been the cause of many serious difficulties. To help overcome such problems, the present program is interested in

early identification of a retarded child, and interpretation to the family about his limitations, in order to help the family to accept the child without feeling guilty or ashamed, and in teaching them to take care of the child. An early recognition of limitations and a knowledge of capacities of the child, would tend to minimize the family's expecting too much from him and placing too great a burden on him. At the same time, the problem of nursery school, kindergarten, and beginning early school experiences might be met much more adequately if the responsible teachers and individuals were aware of the problem they have to deal with before failure or breakdown of the child occurs. Such unhappy experiences might be avoided if the child's limitations are known before he is asked to function beyond his ability in the home, the playground or the school.

The details of carrying out the preventive and service aspects of the program for mentally retarded, have been worked out — at least in preliminary form. The State Well Child Conferences have been used to begin this program. The pediatricians in a number of the conferences have been advised that psychological service is available to them. When a child is seen in their clinic who is suspected of being mentally retarded, he can be referred to the Clinical Psychologist in the Division of Maternal and Child Health for examination and evaluation. The public health nurse acts as the liaison between the Well Child Conference and the Clinical Psychologist, and provides information about the baby's health, physical examination, and home conditions. She also arranges an appointment for the family to take the child for examination. After the child is seen by the psychologist and the report prepared, the pediatrician in the Well Child Conference is furnished with a report for his guidance and as part of the child's record, and the nurse is expected to work with the family, carrying out the recommendations that have been made. If other personnel are involved, such as speech therapist, family physicians, or clinics, they too are advised of the results of the evaluation of the child. If any question arises, or if there is need for clarification or interpreta-

tion of parts of the report, recommendations or other pertinent aspects to be considered, a conference is arranged so that all interested persons may clarify their thinking in behalf of the best interests of the child and the family.

After the child has been seen an interview is held with the parent, usually the mother. An effort is made to describe her child in terms of his limitations, and also his potentials, so that she will know more clearly what she might expect of him. This seems to be an important part of this program, for it is the family — by their attitudes and feelings — who set the stage for acceptance of their child, not only in their home, but also in the community in which they live. It is not anticipated that any parent can be told their child is thus and so, and have them believe it and accept it at once. However, the possibility that an interview can be followed by subsequent interviews holds out the promise that eventual acceptance and understanding can be made a part of their thinking about their child.

When problems of the parents, together with the problems of the child, aggravate the family situation — perhaps the parents feel guilty or ashamed, or don't know how to cope with their child, or are unable to handle their own personal problems, or maybe a combination of all of these — the presence of such unsatisfactory conditions in the home often create conflicts, dissatisfaction, and difficulty. Where this is so because of problems associated with a retarded child, the State Board of Health program offers counseling service. It is intended that one or both parents, if necessary, be referred to the Clinical Psychologist for counseling. The parent will be seen as often as is necessary so that he might be given information about his child and associated problems. As the parent acquires insight into his and the child's problems, it is anticipated that the difficulties created by the problem will diminish. The possibility of group counseling has been considered, and while it is not part of the program at present, prospects for the future have been favorably considered.



It might be mentioned again that the one staff member who is visiting in the home and is in close touch with the situation within that home is the public health nurse. It is through her and her efforts that this program succeeds. She has recommendations, reports, evaluations, and suggestions, some of which perhaps are not and cannot be followed through because of various home conditions and situations. However, it is anticipated that through conferences and home visits, the various staff members will be able to be informed to the extent recommendations are followed in the home.

The programs as described so far, has been based upon those Well Child Conferences supported by the State Board of Health. No one believes that the Division of Maternal and Child Health will be able to see all of the retarded children in the State of Delaware. However, it is hoped that a representative number will be seen and that the service of this program will not be restricted to the Well Child Conferences. With this thought in mind, pediatricians and other physicians are invited to make use of the services of the program for the retarded as established by the State Board of Health. Referrals can be made to the writer. The same general procedures will be followed as far as practicable as are set forth above. It would seem that the referring physician and the clinical psychologist would be in close touch with each other. Specifically, services to private practitioners seem likely in two areas: (1) diagnostic examinations and evaluations, and (2) counseling for parents.

The present program does not provide a complete program for the care and the needs of the retarded individual. According to a recent United States Office of Education's report<sup>3</sup> there are four million educable or marginally independent retarded individuals in this country. Of this group, 750,000 are children between the ages of 6 to 17. Of this group, 108,903 are in public school classes. Of the trainable retardates, or semi-independent individuals, there are reported to be 600,000 in the United States of whom 110,000 are between the ages of 6 and 17 years. 10,000 of this group

are in a special class. When it is realized that 95% of the retarded individuals are in the community and that only 5% are in institutions, some awareness of the magnitude of the problem confronting us is evident. As Leo Kanner<sup>4</sup> has said, our society could not function without the services of mentally defective and mentally retarded individuals. Thus it appears that we must think not only in terms of education, but also of training of various kinds: training in social activities and social behaviors, in personal care and in daily living. Recreation is another important aspect. If the retarded person is to have a useful job to do, he has to be trained to do that job. Ofttimes guidance is necessary as to which particular job is suitable for him. Sometimes counseling is required, with personal problems or with problems of a more general nature. Sometimes parents might need educational courses and other pertinent information which would make the care of their child easier for them and better for the child. The sheltered workshop is not the only solution for the retarded individual. He may be capable of more than that, depending upon the extent of his mental and social competence. Community centers devoted especially to the problems of the retarded are performing a useful function in some areas and localities. Whatever services are ultimately provided for meeting the needs of this section of our population, one service seems a primary necessity. That service is a readily available clinic or center, staffed by competent people whose purpose it is to evaluate, assess, and utilize the capacities of the retarded individuals of our State. Such a facility devoted to the diagnosis, evaluation, training and employment of retarded persons, would meet a need not only of the retarded, but also help to make them, in part at least, independent and contributing citizens.

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## SELECTIVE SEROLOGIC TESTING IN DELAWARE

WINDER L. PORTER, M.D.\*

New cases of venereal disease in Delaware, according to reports, declined progressively for several years after World War II and then began to increase again. As the resurgence became sustained, new approaches to the problem were sought. In the autumn of 1955, selective serologic testing was undertaken in the City of Wilmington and its vicinity. This project was supported by a grant from the United States Public Health Service and was conducted with cooperation from the Wilmington City Board of Health. A detailed account of experiences in this survey was presented in May 1956 before the International Symposium on Venereal Diseases and the Treponematoses, and has been published with the proceedings of that symposium. Of 3310 specimens obtained, analysis was completed on 3278, and is briefly summarized in Table I.

In the brief period of four and one-half weeks there were found 198 persons in need

of treatment for syphilis and nearly 300 names were added to the register of previously unreported cases of syphilis. The bulk of these cases were discovered through street corner testing of volunteers in a relatively few pockets of the city although testing activities extended over the entire city. An appreciable number was obtained by door-to-door and tavern-to-tavern testing in suspected high prevalence areas.

Following this success in the city of Wilmington, the effort was extended to the remainder of the state in the spring of 1956. A brief summation of this experience is found in Table II. It was noted that a high incidence of infection could be found among those who pursue certain occupations. Tabulations for oyster shuckers and poultry packing plant employees is summarized in Table III. Figures for other occupations are less complete, but do focus attention upon a need for further studies along this line.

\* Director, Division Venereal Disease Control

TABLE I  
1955 WILMINGTON SURVEY

|         | Number Donors | # Pos. (Reactive) | # Dbt. (W. React.) | Total Reactive | % React. | Brought To Rx. | Returned To Rx. | Previously Adequately Rx. |
|---------|---------------|-------------------|--------------------|----------------|----------|----------------|-----------------|---------------------------|
| Males   | 1944          | 174               | 87                 | 261            | 13.4     | 50             | 74              | 101                       |
| Females | 1334          | 96                | 60                 | 156            | 11.7     | 27             | 47              | 62                        |
| Total   | 3278          | 270               | 147                | 417            | 12.7     | 77             | 121             | 163                       |

TABLE II  
1956 SPRING SURVEY IN KENT AND SUSSEX COUNTIES

|         | No. Donors | No. React. | No. Weakly Reactive | Total React. | % Reactive | Brought To Rx. | Returned To Rx. | Prev. Rx. Adequate |
|---------|------------|------------|---------------------|--------------|------------|----------------|-----------------|--------------------|
| Males   | 1157       | 134        | 90                  | 224          | 19.4       | 45             | 74              | 68                 |
| Females | 924        | 145        | 78                  | 223          | 24.1       | 49             | 51              | 81                 |
| Total   | 2081       | 279        | 168                 | 447          | 21.5       | 94             | 125             | 149                |

TABLE III  
1956 SPRING SURVEY OF TWO INDUSTRIES

|                    | Number | No. Reactive<br>or W.R. | %<br>Reactive | Brought<br>To Rx. | Returned<br>To Rx. | %<br>Treated |
|--------------------|--------|-------------------------|---------------|-------------------|--------------------|--------------|
| Poultry Processors | 754    | 133                     | 17.6          | 21                | 35                 | 7.4          |
| Oyster Shuckers    | 127    | 31                      | 24.4          | 7                 | 12                 | 15.0         |

Phase one of this program terminated with the fiscal year on July 1, 1956 but strongly supported the opinion that there still remain a considerable number of persons in the state in need of treatment for syphilis. A second phase was undertaken with a further grant from the U.S.P.H.S., and this time was directed particularly at certain types of workers, although two large centers of population in New Castle County were screened in the original manner. Table IV summarizes these operations for the latter half of 1956.

In the spring of 1957, the program reverted to the City of Wilmington in the form of testing volunteer employees in small and medium sized industries. Of 2058 workers, only 117 or 5.7% had reactive tests; processing of these cases is not complete so that the yield of new cases of syphilis cannot be reported at this writing. The lower percentage of reactors is attributable to two handicaps of this approach; viz. (1) the expediency of extending the program to some plants which requested

the service, although they might not have been selected as likely to produce many cases, and (2) the impossibility of limiting the program to selected workers in a particular plant. Reactivity among laborers in the leather industry was quite high but was diluted by the number of office workers who also volunteered. Where unskilled "blue-shirted" workers predominate, much higher yields are forthcoming than among "white-collar" and highly trained artisans. One plant which employed only skilled labor had no reactors among 67 employees.

Surveys within industrial plants have been suspended to allow a fuller program among seasonal employees. Already 41 reactors have been found among 348 agricultural migrants.

During the earlier months of this survey, new cases of syphilis continued to be reported in the state in such numbers as to place Delaware about fifth among the United States for new cases per unit of population. This rank was achieved via

TABLE IV  
1956 FALL SURVEY  
OF TWO TOWNS AND SELECTED OCCUPATIONS

|   | Total<br>Bloods | Reactors | %<br>Reactive | Brought<br>To Rx. | Returned<br>To Rx. | Prev. Rx.<br>Adequate |
|---|-----------------|----------|---------------|-------------------|--------------------|-----------------------|
| Door to Door—(Two Towns)                                | 161             | 51       | 31.7          |                   |                    |                       |
| Fishing Boat Crews                                      | 244             | 58       | 23.8          |                   |                    |                       |
| Fish Processors   | 218             | 34       | 15.6          |                   |                    |                       |
| Oyster Shuckers   | 68              | 10       | 14.7          |                   |                    |                       |
| Poultry Processors                                      | 105             | 17       | 16.2          |                   |                    |                       |
| Cannery Employees                                       | 937             | 188      | 20.1          |                   |                    |                       |
| Lumber Workers  | 7               | 1        | 14.3          |                   |                    |                       |
| Agricultural Migrants                                   | 110             | 15       | 13.6          |                   |                    |                       |
| Resort Food Handlers<br>(Cooks, Waiters, Butlers, Etc.) | 331             | 23       | 6.9           |                   |                    |                       |
| Total   | 2181            | 397      | 18.2          | 91                | 122                | 102                   |



cases detected by routine processing of hospital admissions, candidates for marriage or employment, prenatal examinations, etc.; addition of survey cases moved the State up to second place. Case reports for 1957 have slackened but it is too early to determine if the trend will be sustained.

From time to time, one becomes aware of a ripple of sentiment belittling the value of this intensive search for cases of syphilis, because most of the cases have had their disease for some time and are less likely to be infectious. This is a reflection upon the inadequacy of detection and treatment programs in years past, but does not make the effort any the less worthwhile for there still is possibility of preventing disabling or incapacitating illness and reducing the load of the various welfare agencies. Admittedly it is impossible to determine which of these patients would later develop serious consequences, and it is certain that some have had their syphilis arrested coincidentally by antibiotics administered for other reasons. Nonetheless, we must treat all who have no proof of adequate treatment in the past, for we continue to see the blind, the paralyzed and the insane victims of neglected syphilis, and babies continue to be born with the disease even though effective treatment is readily available.

The low incidence among people of the ages most active sexually may lead to a false sense of security for there is every evidence that there could be an epidemic spread if infectious syphilis were introduced into this group. The reported cases of gonorrhoea and the number of illegitimate births testify volubly to the extreme sexual promiscuity, and indeed at this writing, several cases of infectious syphilis among teenagers are under investigation and may very well bespeak an epidemic spread.

The question of biologic false positive reactions becomes of increasing importance as the incidence of syphilis is reduced, but as Fiumara and others have pointed out, there is still a high degree of specificity for reactive tests among those persons of the socio-economic status that comprise the clinic group, and which are the prime targets of our surveys.

This quest for cases must proceed and we must insure that every case receives adequate treatment. Surveys will continue in all parts of the state, applying every technique which bears promise. The Division of Venereal Disease Control urges every physician to join the crusade and encourage serologic tests for all patients so that our state will not continue to face the finger of scorn. With its wealth and resources, Delaware should be among the leaders in suppression of venereal disease, instead of dragging near the bottom.

#### SUMMARY AND CONCLUSION

1. In the past two years, selective serologic testing has been extended to 9978 persons in Delaware, with 1419 of those showing serologic evidence of syphilis.

2. It has proven profitable to test all employees in certain industries, but surveying an entire plant often necessitates including many workers of socio-economic status where little syphilis is to be found.

3. The quest is of value even though most of the cases found have had their disease for many years.

4. So long as one case of infectious syphilis remains untreated, there is always the likelihood that an epidemic spread may develop.

5. All physicians are urged to join the crusade to remove Delaware from the leaders in venereal disease morbidity.

TABLE V  
1957 SURVEY

|                       | Total bloods | Reactors | % Reactive |
|-----------------------|--------------|----------|------------|
| Wilmington Industries | 2058         | 117      | 5.7        |
| Agricultural Migrants | 348          | 41       | 11.8       |
| Total                 | 2406         | 158      | 6.6        |

## THE NOMENCLATURE AND SCOPE OF COMMUNICATIVE DISORDERS

WILLIAM G. HARDY, PH.D.\*

The general field of communicative disorders and problems is broad, and during the years since World War II many changes have been wrought regarding these disabilities: in basic assumptions, in fundamental knowledge, in clinical tools, and in training and retraining needs. In consequence, new terms, re-definitions, and new attitudes have been generated, many of which are by no means stable, all of which need broad professional interchange so that one group of specialists may reasonably understand what another group is talking about. This is particularly necessary because of the developing comprehension of the responsibilities which should be assumed in medicine, in public health, and in education, in work with a child who has a communicative disorder. Medicine, in the broadest sense, must provide the diagnostic and descriptive information which the educator should have in order to place a child so that his best potentials may be realized, or to know what facilities in special education are needed. Because of this relationship, the matter of nomenclature becomes exceedingly important.

Communication with verbal symbols is one of man's most distinguishing characteristics, and when this transmission system does not develop normally, the entire dynamic structure of the child's personality may be seriously affected. Obviously, this may have serious implications in his learning and in his psycho-social development. For this reason, children with communicative disorders require additional or special help through all or part of the educative process. The data from a recent study of the needs of 1,100,000 atypical children in 14 states

suggests that approximately 60 percent of these children have, among other things, communicative disorders. The scope of the field is tremendous.

There are many ways to describe the communicative processes and their disorders. A useful approach can be made in terms of the way communication develops normally in children:

1. Hearing: the presentation of sound to the mind is a major channel in language development;
2. Language: this is the mind's activity in learning, associating, and using symbols significantly;
3. Speech: this is the expressed form of verbal language; a child may communicate in directed babble, but speech must follow an orderly sequence of sound-utterance.

In the course of early development, the baby learns what may be called *communicative awareness*, a consciousness of bridging the gap between minds by visual and auditory exchanges. Then comes *comprehension of language*, the development of meanings through integration of auditory, visual, and situational stimuli; this is the foundation of reading. Third, comes facility in the *expression of language*, the development of speech through successive stages of babble, vocal play, jargon, words, and sentences; its counterpart, later on, is writing. The child with a serious communicative disorder is not especially endowed so he can develop differently; he must go through precisely the same stages as does the normal child. How well he can do this depends upon a variety of factors: (1) the cause, nature, and extent of the pathology or maldevelopment of the hearing, language, and speech

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mechanism; (2) physical, intellectual, and social status and maturity; and (3) the status of his communicative skills. These are the facts to be obtained in working out a health profile. When they are known, a program of training can be outlined according to the needs of the particular child, limited only by the facilities that are available.

A simple diagnosis of deafness, in this regard, does not offer sufficient information. Deafness is not a disease, but it may be a symptom of a variety of diseases and disorders. What is necessary is that the child be studied in exhaustive detail, and given whatever medical treatment is indicated, so that he may be trained as a child, not as a damaged auditory mechanism. So, too, with language disorders, some of which are diffuse, some of which may be quite limited or specific. Usually, the development of language is a product of multiple stimuli and responses in which audition plays an important part. A language disorder exists when there has been maldevelopment of, or a breakdown of, the structures of the cerebrum where these myriad connections and associations are made. Sometimes, as in some forms of epileptoid diseases, medication can materially improve the function of these brain structures; more often, however, improvement of these language functions is a direct product of training or re-orientation of undamaged structures. This is a dynamic process of integration. Speech disorders are best analyzed, perhaps, in physiologic terms; that is, what is happening in the sequence of events of utterance that interferes with ready communicative expression. With few exceptions, a severe hearing impairment or language disorder produces aberrant speech. For the most part, however, speech disorders may exist when both hearing and language functions are reasonably normal. Aside from the dysarthrias, which are caused by damage or disorder at the sensory-motor level of the brain, the great majority of cases of speech disorder represent a breakdown, or lack of development of, articulatory reflexes. There are many causes for this condition, ranging from problems of unbalance in the dynamics of personality to less than adequate re-

flexes in the control of, or in the mechanics of, utterance. It is important in speech correction that more than the obvious symptoms be treated; thus the need for careful diagnosis—again, of the whole child—and for an integrated program of training that incorporates the best in health and education. In order that adequate goals may be realized, it is important that the various disorders be understood categorically.

In common usage, the term *hearing* means adequate or expected response to sound, while the term *deafness* means lack of response to sound. Neither of these general appositives is useful for precise health and educative reference. Hearing encompasses the activity of the external and middle ear in conducting sound, the transduction of this energy into electrical values in the inner ear, the passage of electrical current across various synapses through the brainstem and the interbrain to the auditory cortex. The inner ear (cochlea) serves as the specific peripheral sense-organ; here sound is analyzed in terms of its harmonic components. The auditory cortex serves a complementary function; it is the perceptive mechanism of hearing where the harmonic complex of sound is synthesized. This is the VIIIth Nerve System; hearing impairment involves a breakdown, or disorder, or dysfunction of this system. Further cerebral functions involve the transmission of these auditory signals to the associative centers, and selection, recall, and motor synthesis in terms of meaning and experience. These functions lie beyond hearing, and involve the complex of listening, understanding, memory, and the like.

Hearing impairment may take several different forms, alone or in combination:

*Conductive*—involves trouble in the external or middle ear, whereby the passage of sound is impeded or damped; this may exist with any of the other types of hearing impairment; many kinds of conductive impairment are quite amenable to medical and surgical therapy, which is indicated as soon as the problem is defined;

*Peripheral Neural*—involves damage to or atrophy of the specific end-organ of



hearing, the Organ of Corti of the inner ear. Pathology in the inner ear may result in impairment of both intensity and frequency, and commonly results in acoustic distortion. The inner ear contains the mechanism for encoding acoustic information, and damage at this level implies something less than a normal amount of acoustic information transmitted to the brain;

*Central Neural*—involves damage to or maldevelopment of the transmitting and perceptive structures of the VIIIth-Nerve System central to the cochlea. This may affect only loudness, only pitch, or both loudness and pitch. When the central mechanism, particularly the auditory cortex, is seriously involved, the individual can receive sound encoded in the end-organ, but cannot perceive it; the decoding facilities are affected, and he loses or does not develop his capacity to discriminate sounds and therefore cannot monitor himself. This is a quite common kind of "deafness" and does not necessarily involve other kinds of "brain damage", as this term is frequently employed;

*Mixed*—may involve any combination of the other impairments;

*Psychogenic*—involves a psychic component either as the basic cause of, or as a source of aggravation of, hearing impairment.

Any of these types, alone or in combination, may underlie a permanent hearing impairment which constitutes a social and educative disability. All require definitive diagnostic description prior to any educative disposition.

Language impairment is much more difficult to apprehend and study. Because the details of complex cortical function cannot be observed directly, the precise nature of a language disorder must remain in large part obscure. In general there are two types (it is taken for granted that there will be language problems in various kinds and degrees of mental retardation):

1. Disability or aberration in learning to make the necessary relations among symbols, meanings, and experience, associated with classical neurological or psychiatric entities such as motor

palsy, encephalitis, meningitis, epileptoid diseases, schizophrenia, and the like;

2. Similar disability or a berration in function evidently relatable to no known syndromes nor symptoms, and presumably existing on unknown bases of development.

There are many ramifications of these various language disorders for which the task of diagnostic description is severe in the extreme. Many children who belong in this group are thought to be deaf or mentally retarded; yet they should be handled differently from deaf children, and retraining methods suitable for them are quite different. Children with these language disorders cannot be handled in large groups. Involving as it does the entire behavioral complex of the child, a language disorder is unique with each child.

Speech disorders are quite readily described in four major categories:

1. *Delayed and retarded speech* exist with the presumption of normal hearing and language mechanisms. Retarded speech involves a reasonably normal time of onset, with noticeable lag in development; infantile perservation is its most common form. Delayed speech implies lack of onset, far beyond any reasonable limit; there are many possible contributory factors;
2. *Articulatory disorders* involve disability in the physiologic details of uttering speech sounds in connected discourse. There are two principal types:
  - a. Physiologic disorders for which there is no evident structural basis; the articulatory mechanism is apparently normal but the habit-patterns in the movement of the speech-articulators are aberrant;
  - b. Anatomic disorders (such as a cleft palate, or a severe malocclusion) wherein the speech deficiency is a direct product of the organic status.

3. *Dysphonia* relates to a disorder in the propagation of voice. It is commonly caused by misuse of the thoracic or laryngeal structures. Aside from this, there are various lesions of these structures (in quite low prevalence among children) which may cause dysphonia.
4. *Dysarthria* is a general term referring to a wide variety of speech disorders caused by brain injuries or disorders or anomalies, wherein sensory-motor function is interfered with or seriously affected. These problems usually occur with relation to known neurological categories.

Reference is not made in this context to any standard of or predilection for "Correct speech." This is an aesthetic matter, or value-judgment, which lies outside the province of speech pathology. A speech disorder is a condition wherein the communicative process is interfered with more or less seriously, and whereby undue attention is called to the act of speech utterance. This status is independent of prejudicial opinion about any particular dialect or idiomatic construction. In these terms, almost all speech disorders are amenable to correction or improvement.

Although it is often thought of as a speech disorder, stuttering is quite different from the problems outlined above. Interference with smooth-flowing speech is only the symptom of the basic problem, and, just as one would not treat measles by rubbing salve on the skin lesions, so one would not treat stuttering by routine articulatory drillwork. The distinction between stammering and stuttering is not sound; it exists in the public mind in large part because the roots of these two words were in German, and an attempt was made years ago in Germany to describe two degrees of symptoms. A similar descriptive effort is current in the terms "primary" and "secondary" stuttering. Measles is measles, regardless of the severity of any particular case, and the problem of helping the stutterer is better met if one does not confuse degree with status.

Stuttering is a complex of the dynamics of personality, wherein there exists a severe anxiety-state, anticipatory and inhibiting,

which causes a block in the sensory-motor synchrony of speech utterance. By definition, stuttering is an operational disorder; when there are neuro-organic involvements, the condition is something else. A principal symptom is a dysrhythmia that commonly takes the form of perservation or retardation in the utterance of a speech sound or syllable. The usual period of onset is age 3 to age 6 years. In its developed form, stuttering is commonly amenable to compensatory therapy, rarely to complete cure. The preferred attack on the problem is prevention; that is, recognition of early symptoms and removal from the child's environment of the precipitating factors. Stuttering is a severe disability, extremely costly to individual and community, and constitutes a real challenge in treatment and education.

It seems quite clear that, as children with special needs for training and learning, a large proportion of those with hearing, language, and speech disorders present their basic needs prior to statutory school age. Accordingly, it seems apparent that much of the work of training in communication habits and skills should be initiated in the preschool years. For this reason, among others, the details of case-finding, diagnosis, treatment and follow-up (including audiologic guidance, and language and speech training) are best handled in a combined school-health program. Later, when the child reaches school-age, or becomes eligible for a special training program under special public education, there should be a smooth transition in principles, methods and procedures, so that his optimum progress is fostered to the fullest extent. This sort of rehabilitative effort is not the prerogative of any particular professional group, but remains a many-sided cooperative endeavor involving the physician, the audiologist, the speech correctionist, the psychologist, the teacher and, above all, the parent. It cannot be fully effective except as this group learns to work as a team, sharing common principles and common objectives.

Note: Much of the detail of the nomenclature and scope of the field was worked out in sessions of the sub-committee on Hearing, Language and Speech Disorders, of the Committee to Study the Educational Needs of Atypical Children in Maryland. The writer was chairman of this sub-committee and undertook to work up this material.

## PHYSICAL THERAPISTS PRACTICE ACT

RICHARD ZARBOCK, R.P.T., M.A.\*

On June 29, 1955 the General Assembly of the State of Delaware passed and enacted into law an amendment to the Delaware Code, entitled "Professions and Occupations" which provides for the examination and registration of physical therapists. You may ask, "What does this law mean to me as a physician?" It means that physical therapists who are registered by the Delaware State Examining Board of Physical Therapists are fully qualified professionally, morally, and educationally to practice physical therapy under the prescription, supervision and direction of a person licensed in Delaware to practice medicine and surgery.

### APPLICATION REQUIREMENTS

An applicant for a certificate of registration as a physical therapist must file a written application on forms provided by the Examining Board of Physical Therapists which is appointed by the Governor. The applicant shall present satisfactory evidence that he is at least twenty years of age, is of good moral character, has obtained high school education or its equivalent, and has been graduated from a school of physical therapy approved by the appropriate subcommittee of the American Medical Association. He shall pay \$15 and present himself for examination at the first meeting thereafter at which examinations are to be held.

### EXAMINATION

The examination shall embrace the subjects, theories, and techniques used by the physical therapist in the treatment of disease, injury, and mental conditions by the use of physical, chemical and other properties of heat, light, water, electricity, massage and therapeutic exercise which includes posture and rehabilitation procedures. The use of roentgen rays and radium for diagnostic and therapeutic purposes, and the

use of electricity for surgical purposes is not authorized.

### RESTRICTIONS OF NON-REGISTRANTS

A person who is not registered with the Examining Board as a physical therapist shall not represent himself as being so registered and shall not use in connection with his name the words or letters "R.P.T.", "Registered Physical Therapist", or "Physio-therapist", or any other letters, words or insignia indicating or implying that he is a registered physical therapist.

### GROUND FOR REFUSAL OR REVOCATION

The Board shall refuse to grant registration to any physical therapist or shall revoke the registration of any physical therapist for the following reasons:

1. If he is addicted to the use of narcotic drugs or alcoholic beverages.
2. If he has been convicted of violating any state or federal narcotic law.
3. If he has obtained or attempted to obtain registration by fraud or material misrepresentation.
4. If he is guilty of any act derogatory to the standing and morals of the profession of physical therapy, including the treatment or undertaking to treat ailments of people other than by physical therapy, and undertaking to practice independent of the prescription, direction and supervision of a person licensed in Delaware to practice medicine and surgery.

### CONCLUSION

In conclusion, it would be well to stress the importance of the Physical Therapists Practice Act to the physician as an aid to providing both better treatment services and more adequate protection for the patient. The Act has been endorsed and encouraged by the American Medical Association, the Delaware Medical Society and the American Physical Therapy Association.

\* Coordinator of Physical & Occupational Therapy, Division of Crippled Children's Services, State Board of Health. Secretary & Treasurer, Delaware Examining Board of Physical Therapists.



## + Editorials +

### A DOUBLE-EDGED SWORD

Today's family physician is longer trained and better equipped than his counterpart of years ago. An obvious index of this is the number of general physicians who maintain fluoroscopes in their offices.

Careful fluoroscopic examination is without doubt a primary factor in the diagnosis of many diseases of the respiratory and circulatory systems. Improper use of this method of examination, however, can be dangerous. The hasty observer may overlook significant data upon which may hinge the diagnosis and guide to proper treatment. The careless operator can easily subject himself and his patient to excessive amounts of radiation.

It is essential that every physician having access to a fluoroscope should periodically check his fluoroscopic habits in order to insure proper protection to all concerned.

### IT COULD HAPPEN HERE

In the event anyone missed the significance of Delaware's venereal disease rate, it is one record not subject to envy. The person who sees no cause for alarm should

read the article "An Outbreak of Gonorrhea and Early Syphilis in Massachusetts" that appeared in the May 22nd issue of *The New England Journal of Medicine*. It could happen here.

### SAY WHAT YOU MEAN

Articles in *The Saturday Evening Post* (July 13th) and *The Saturday Review* (August 10th) are but two of many excellent ones recently published in a plea for people to express themselves clearly.

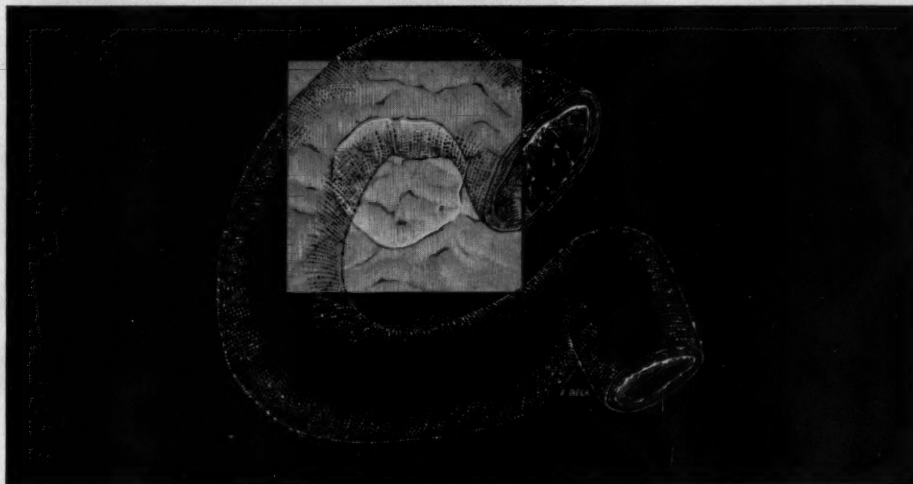
This is not a reminder to medical writers to clean up their manuscripts but rather one to practicing physicians to combat the number one public criticism of the physician — his failure to properly explain the patient's condition. Surveys have shown this factor to be far above fee, unavailability, and hasty examination in the list of complaints.

The patient, or the family, has a right to know the facts. It is our duty to give these facts in clear, understandable language. A small amount of effort in this direction will result in a tremendous public relations improvement.



ROGER MURRAY, M.D.

*President Medical Society of Delaware 1957*

**RELIEVES THE GNAWING ACHE**

## Pro-Banthine® provides rapid control of pain in peptic ulcer

In a two-year study<sup>1</sup> by Lichstein and co-workers, documented by intensive personal observation and by follow-up studies, Pro-Banthine (brand of propantheline bromide) often brought immediate relief of ulcer pain. Patients (11 per cent) who did not respond satisfactorily to Pro-Banthine therapy had "anxiety manifestations of psychoneurotic proportions."

In addition to frequent immediate symptomatic relief, Pro-Banthine reduces gastrointestinal motility and diminishes the secretion and acidity of gastric juice, all-important factors in the generation and aggravation of peptic ulcer.

These actions of Pro-Banthine and its demonstrated effectiveness in accelerating ul-

cer healing<sup>2-5</sup> mark the drug as a most valuable adjunct in the treatment of peptic ulcer.

The suggested initial dosage is one 15-mg. tablet with meals and two tablets at bedtime. An increased dosage may be necessary for severe manifestations and then two or more tablets four times a day may be prescribed.

G. D. Searle & Co., Chicago 80, Illinois.  
Research in the Service of Medicine.

1. Lichstein, J.; Morehouse, M. G., and Osmon, K. L.: *Am. J. M. Sc.* 232:156 (Aug.) 1956.

2. Sun, D. C. H., and Shay, H.: *Arch. Int. Med.* 97:442 (April) 1956.

3. Rafsky, H. A.; Fein, H. D.; Breslaw, L., and Rafsky, J. C.: *Gastroenterology* 27:21 (July) 1954.

4. Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: *Gastroenterology* 25:416 (Nov.) 1953.

5. Silver, H. M.; Pucci, H., and Almy, T. P.: *New England J. Med.* 252:520 (March 31) 1955.

**SEARLE**





*kids really like...*

# RUBRATON

SQUIBB IRON, B COMPLEX AND B<sub>12</sub> VITAMINS ELIXIR

- to correct many common anemias
- to correct mild B complex deficiency states
- to aid in promotion of growth and stimulation of appetite in poorly nourished children

**SQUIBB**



*Squibb Quality—  
the Priceless Ingredient*

*Each teaspoonful (5 cc.) supplies:*

|  |         |
|--|---------|
| Elemental Iron .....                               | 38 mg.  |
| (as ferric ammonium citrate and colloidal iron)    |         |
| (equivalent to 130 mg. ferrous sulfate exsiccated) |         |
| Vitamin B <sub>12</sub> activity concentrate ..... | 4 mcg.  |
| Thiamine mononitrate .....                         | 1.0 mg. |
| Riboflavin .....                                   | 1.0 mg. |
| Niacinamide .....                                  | 5 mg.   |
| Pantothenic acid (Panthenol) .....                 | 1.5 mg. |
| Pyridoxine hydrochloride .....                     | 0.5 mg. |

Alcohol content: 12 per cent

*Dosage:* 1 or 2 teaspoonfuls t.i.d.

*Supply:* Bottles of 8 ounces and 1 pint.

## ECKERD'S DRUG STORES

COMPLETE  
DRUG SERVICE

FOR

PHYSICIAN - PATIENT  
BIOLOGICALS  
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HOSPITAL SUPPLIES  
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Prescription Opticians

*We Specialize in Making  
Spectacles and Lenses  
According to Eye Physicians'  
Prescriptions*



5TH AND MARKET STS.  
WILMINGTON, DELAWARE

when anxiety and tension "erupts" in the G. I. tract...

# IN ILEITIS



# PATHIBAMATE\*

Meprobamate with PATHILON® Lederle

*Combines Meprobamate (400 mg.) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of ileitis — without fear of barbiturate loginess, hangover or habituation . . . with PATHILON (25 mg.) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.*

*Dosage:* 1 tablet t.i.d. at mealtime. 2 tablets at bedtime.

*Supplied:* Bottles of 100, 1,000.



\*Trademark

® Registered Trademark for Tridihexethyl Iodide Lederle

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**EVERY WOMAN  
WHO SUFFERS  
IN THE  
MENOPAUSE  
DESERVES  
"PREMARIN"**

*widely used  
natural, oral  
estrogen*

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New York, N. Y. • Montreal, Canada

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PROTECTION AGAINST LOSS OF IN-  
COME FROM ACCIDENT & SICKNESS  
AS WELL AS HOSPITAL EXPENSE  
BENEFITS FOR YOU AND ALL YOUR  
ELIGIBLE DEPENDENTS.



PHYSICIANS CASUALTY & HEALTH  
ASSOCIATIONS

OMAHA 31, NEBRASKA

Since 1902

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**46 CALORIES**  
per 18 gram slice

**Hollywood**  
**BREAD**



**INGREDIENTS**

WHEAT, WHOLE WHEAT AND FLAKED OR  
ROLLED WHEAT FLOURS, YEAST, MOLASSES,  
SALT, HONEY, MALT, CARAMEL, SESAME SEED,  
YEAST FOOD, WITH AN ADDITION OF WHOLE  
RYE, OATMEAL, SOYA, GLUTEN AND BARLEY  
FLOURS, PLUS DEHYDRATED VEGETABLE FLOURS,  
INCLUDING CARROT, SPINACH, KELP, LETTUCE,  
PUMPKIN, CABBAGE, CELERY AND PARSLEY.  
CALCIUM PROPIONATE ADDED TO  
RETARD SPOILAGE.

Baked exclusively FOR YOU by

**Freihofer's**

Under License By National Bakers Services, Inc., Chicago



for "This Wormy World"



*Pleasant tasting*

**'ANTEPAR'**®  
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PIPERAZINE

**SYRUP · TABLETS · WAFERS**

*Eliminate* **PINWORMS IN ONE WEEK**  
**ROUNDWORMS IN ONE OR TWO DAYS**

**PALATABLE · DEPENDABLE · ECONOMICAL**

**NEW** **'ANTEPAR' SYRUP** - Piperazine Citrate, 100 mg. per cc.  
**'ANTEPAR' TABLETS** - Piperazine Citrate, 250 or 500 mg., scored  
**'ANTEPAR' WAFERS** - Piperazine Phosphate, 500 mg.

*Literature available on request*



**BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.**

*New*

# **NEO-SYNEPHRINE<sup>®</sup> COMPOUND**

*Cold Tablets*

offer "Syndromatic" Control  
in the COMMON COLD, Allergic Rhinitis

---

Patients breathe, sleep, work and  
play better with new "syndromatic" action.

Neo-Synephrine Compound Cold Tablets...  
for... Full "Syndromatic" Relief.

# Neo-Synephrine Compound Cold Tablets

protect patients through the full  
range of symptoms

*Each tablet contains:*

**NEO-SYNEPHRINE HCl, 5 mg.**

*Mild, long acting decongestive*

*controls*

**NASAL STUFFINESS, RHINORRHEA**

**Acetaminophen, 150 mg.**

*Effective analgesic and antipyretic*

*relieves*

**HEADACHE AND ASSOCIATED ACHES AND PAINS**

**Thenfadi<sup>®</sup>l HCl, 7.5 mg.**

*Dependable, well tolerated antihistaminic*

*neutralizes*

**ALLERGIC SENSITIZATION**

**Caffeine, 15 mg.**

*counteracts*

**MENTAL AND PHYSICAL LASSITUDE**

**Dose: Adults—2 tablets three times daily.**

**Children 6 to 12 years—1 tablet three times daily.**

**Bottles of 100 tablets**

*Winthrop*

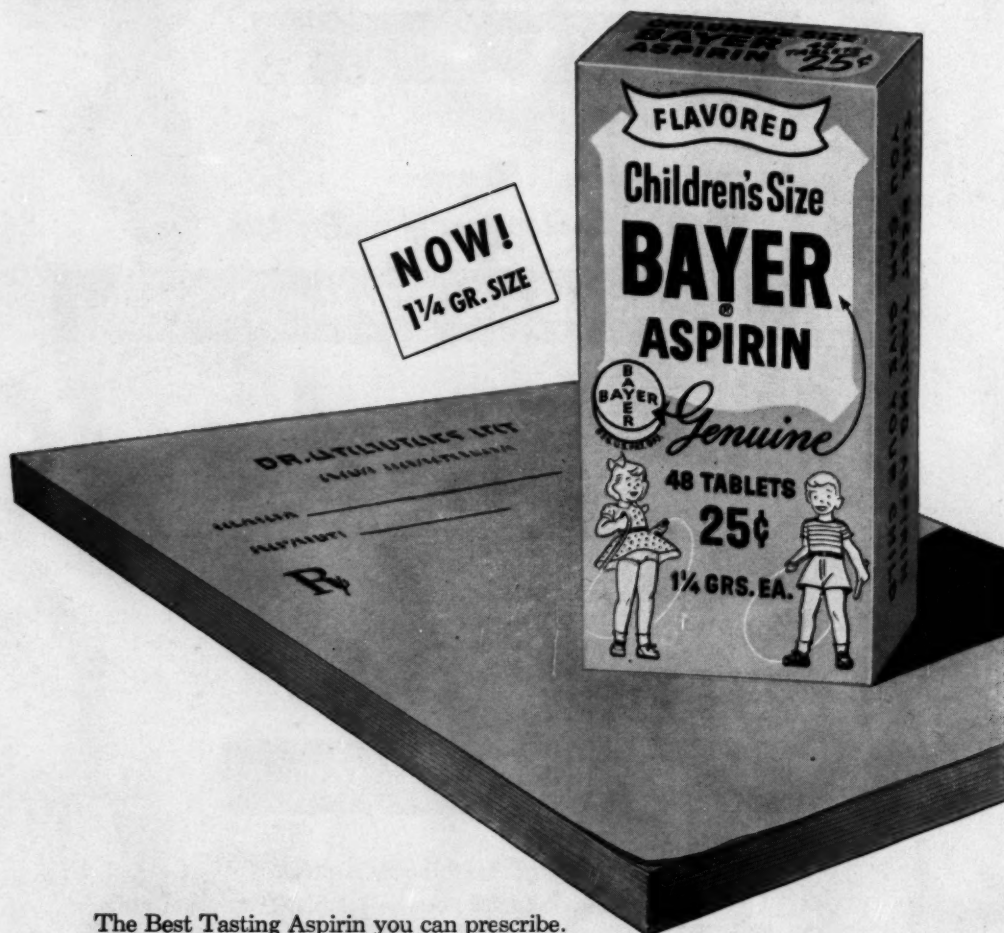
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NEW YORK 18, N. Y.





*little*

**How to win friends ...**



The Best Tasting Aspirin you can prescribe.

The Flavor Remains Stable down to the last tablet.

25¢ Bottle of 48 tablets (1 1/4 grs. each).

*We will be pleased to send samples on request.*

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*who coughed?*



**WHENEVER  
COUGH THERAPY  
IS INDICATED**

# Hycodan<sup>®</sup>

(Dihydrocodeinone with Homatropine Methylbromide)

- Relieves cough quickly and thoroughly
- Effect lasts six hours and longer, permitting a comfortable night's sleep
- Controls useless cough without impairing expectoration
- rarely causes constipation
- And pleasant to take

Syrup and oral tablets. Each teaspoonful or tablet of Hycodan<sup>®</sup> contains 5 mg. dihydrocodeinone bitartrate and 1.5 mg. Mesopin.<sup>†</sup> Average adult dose: One teaspoonful or tablet after meals and at bedtime. May be habit-forming. Available on your prescription.

**Endo**

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Richmond Hill 18, New York

\* U. S. PAT. 2,630,400

† BRAND OF HOMATROPINE METHYLBROMIDE

*one dose  
a day...*

**lowers  
blood  
cholesterol  
levels**





announcing...  
 a new practical  
 and effective method  
 for lowering blood  
 cholesterol levels...  
**Arcofac**

**Just one dose a day effectively  
 lowers elevated blood cholesterol  
 . . . while allowing the patient  
 to eat a balanced . . . nutritious . . .  
 and palatable diet**

Each tablespoonful of emulsion contains:

|                                   |          |
|-----------------------------------|----------|
| Linoleic acid.....                | 6.8 Gm.  |
| Vitamin B <sub>6</sub> .....      | 0.6 mg.  |
| Mixed tocopherols (Vitamin E)     | 11.5 mg. |
| (sodium benzoate as preservative) |          |

Arcofac is effective in small doses  
 and is reasonable in cost  
 to the patient



**THE ARMOUR  
 LABORATORIES**

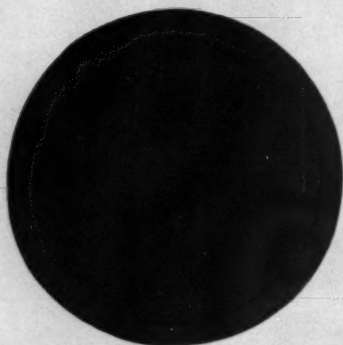
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 KANKAKEE, ILLINOIS

**Arcofac**

Armour...Cholesterol Lowering...Factor



**symptomatic relief... plus!**



# Achrocidin<sup>\*</sup>

TETRACYCLINE ANTIHISTAMINE ANALGESIC COMPOUND

ACHROCIDIN is a well-balanced, comprehensive formula for treating acute upper respiratory infections.

Debilitating symptoms of malaise, headache, pain, mucosal and nasal discharge are rapidly relieved.

Early, potent therapy is offered against disabling complications to which the patient may be highly vulnerable, particularly during febrile respiratory epidemics or when questionable middle ear, pulmonary, nephritic, or rheumatic signs are present.

ACHROCIDIN is convenient for you to prescribe—easy for the patient to take. Average adult dose: two tablets, or teaspoonfuls of syrup, three or four times daily.

## tablets

ACHROMYCIN® Tetracycline . 125 mg.  
Phenacetin . . . . . 120 mg.  
Caffeine . . . . . 30 mg.  
Salicylamide . . . . . 150 mg.  
Chlorothen Citrate . . . . . 25 mg.

*Bottle of 24 tablets*

## syrup

*Each teaspoonful (5 cc.) contains:*

ACHROMYCIN® Tetracycline  
equivalent to tetracycline HCl 125 mg.  
Phenacetin . . . . . 120 mg.  
Salicylamide . . . . . 150 mg.  
Ascorbic Acid (C) . . . . . 25 mg.  
Pyrimine Maleate . . . . . 15 mg.  
Methylparaben . . . . . 4 mg.  
Propylparaben . . . . . 1 mg.

*Available on prescription only*

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK



<sup>\*</sup>Reg. U. S. Pat. Off.



*For anxiety, tension  
and muscle spasm  
in everyday practice.*

- well suited for prolonged therapy
- well tolerated, relatively nontoxic
- no blood dyscrasias, liver toxicity, Parkinson-like syndrome or nasal stuffiness

**RELAXES BOTH MIND AND MUSCLE  
WITHOUT IMPAIRING MENTAL OR PHYSICAL EFFICIENCY**



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*tranquilizer with muscle-relaxant action*

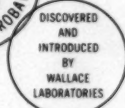
2-methyl-2-m-propyl-1,3-propanediol  
dicarbamate — U. S. Patent 2,724,720

*Supplied:* 400 mg. scored tablets  
200 mg. sugar-coated tablets

*Usual dosage:* One or two  
400 mg. tablets t.i.d.

*Literature and samples available on request*

 WALLACE LABORATORIES, New Brunswick, N. J.





Relaxes without  
impairing mental  
or physical  
efficiency



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*"Since it [meprobamate—  
'Miltown'] does not cloud  
consciousness or lessen  
intellectual capacity, it  
can be used...even by those  
busily occupied in intel-  
lectual work."*

*Keyes, B. L.: Pennsylvania M. J. 60: 177, Feb. 1957.*

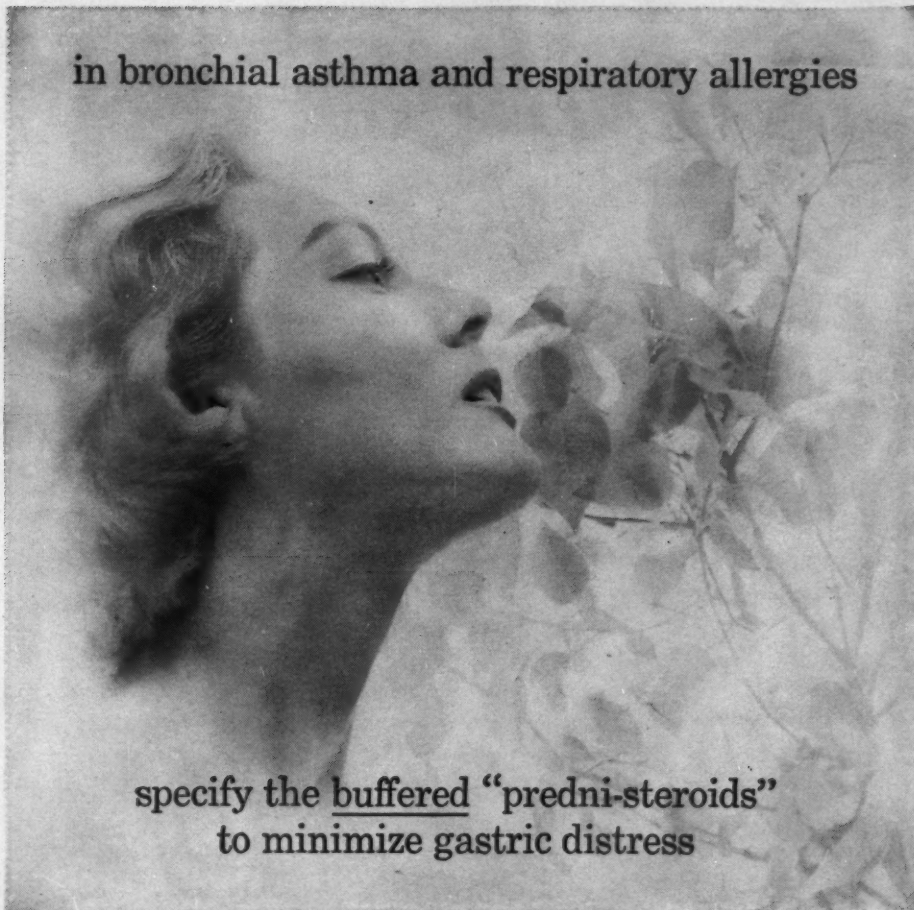
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**Miltown®**

2-methyl-2-isopropyl-1,3-propanediol dicarbamate—U.S. Patent 2,724,720

TRANQUILIZER WITH MUSCLE-RELAXANT ACTION

in bronchial asthma and respiratory allergies



specify the buffered "predni-steroids"  
to minimize gastric distress

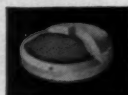
*combined steroid-antacid therapy...*

'Co-Deltra' or 'Co-Hydeltra' provides all the benefits of "predni-steroid" therapy and minimizes the likelihood of gastric distress which might otherwise impede therapy. They provide easier breathing—and smoother control—in bronchial asthma or stubborn respiratory allergies.

**SUPPLIED:** Multiple Compressed Tablets 'Co-Deltra' or 'Co-Hydeltra' in bottles of 30, 100, and 500.

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**Multiple  
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2.5 mg. or 5.0 mg.  
of prednisone or  
prednisolone, plus  
300 mg. of dried  
aluminum  
hydroxide  
gel and 50 mg.  
of magnesium  
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**Co-Deltra®**

(Prednisone buffered)

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(Prednisolone buffered)



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## A Dependable Antihypertensive

**"...by far the most effective**

and useful orally administered agent for reducing blood pressure . . . fully worthy of a trial in every case of essential hypertension in which treatment is thought necessary. The severe cases, which always need treatment, are as likely to respond as the mild."<sup>1</sup>

1. Locket, S.: Brit. M.J.  
1:809 (Apr. 2) 1955.

## An Effective Tranquilizer, too

" . . . relief from anxiety resulted in generally increased intellectual and psychomotor efficiency with a few exceptions."<sup>2</sup> Rauwiloid is outstanding for its *nonsoporific* sedative action in a long list of diseases burdened by psychic overlay.

2. Wright, W.T., Jr., et al.: J. Kansas  
M. Soc. 57:410 (July) 1956.

**Dosage:** Merely two 2 mg. tablets at bedtime.  
After full effect one tablet suffices.

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Rauwiloid is recognized as basal medication in all grades and types of hypertension. In combination with more potent agents it proves synergistic or potentiating, making smaller dosage effective and freer from side actions.

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In moderate to severe hypertension this single-tablet combination permits long-term therapy with dependably stable response. Each tablet contains 1 mg. Rauwiloid (alseroxylon) and 3 mg. Veriloid (alkavervir). Initial dose, 1 tablet t.i.d., p.c.

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when anxiety and tension "erupts" in the G. I. tract...

# IN DUODENAL ULCER



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Meprobamate with PATHILON® Lederle

*Combines Meprobamate (400 mg.) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of duodenal ulcer — without fear of barbiturate loginess, hangover or habituation . . . with PATHILON (25 mg.) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.*

*Dosage:* 1 tablet t.i.d. at mealtime. 2 tablets at bedtime.

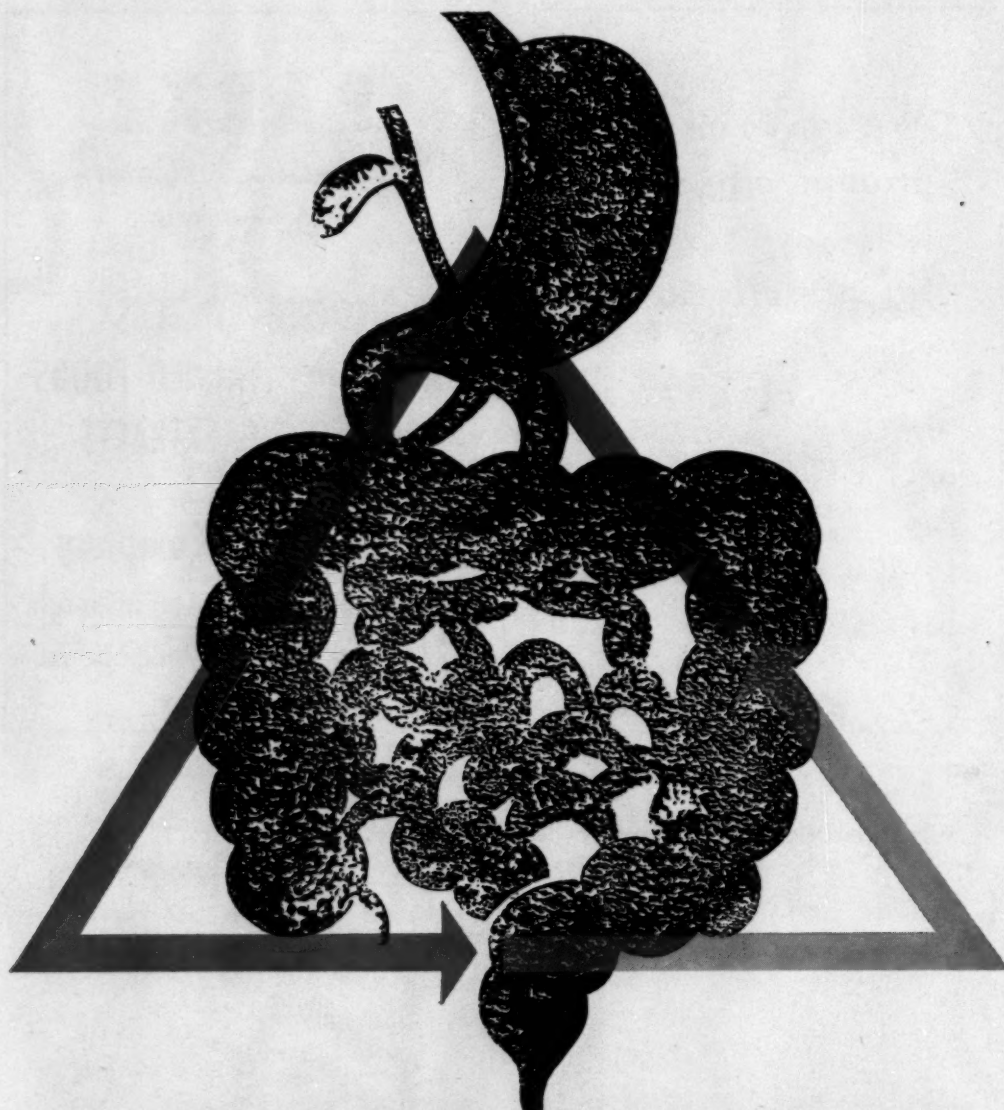
*Supplied:* Bottles of 100, 1,000.



\*Trademark

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**your patients with generalized gastrointestinal  
complaints need the comprehensive benefits of**

# **Tridal<sup>®</sup>**

(DACTIL<sup>®</sup> + PIPTAL<sup>®</sup>—in one tablet)

rapid, prolonged relief throughout the G.I. tract  
with unusual freedom from antispasmodic  
and anticholinergic side effects

One tablet two or three times a day and one at bedtime. Each TRIDAL tablet contains 50 mg. of Dactil, the *only* brand of N-ethyl-3-piperidyl diphenylacetate hydrochloride, and 5 mg. of Piptal, the *only* brand of N-ethyl-3-piperidyl-benzilate methobromide.

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# WHY SENSITIZE

*in topical and ophthalmic infections*

# USE 'POLYSPORIN'

POLYMYXIN B-BACITRACIN OINTMENT brand

*to insure broad-spectrum therapy  
with minimum allergenicity*

For topical use: in ½ oz. and 1 oz. tubes.

For ophthalmic use: in ¼ oz. tubes.



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## THE CHALLENGE:

Can a cigarette be made that will give significantly superior filtration—at least 40% effective—and also give easy draw with full, natural tobacco flavor?

As manufacturers of the first modern filter cigarette, P. Lorillard Company has long shared the hope for such a cigarette. At the Lorillard Laboratories, an intensive search for several years has at last led to the answer...

## THE ANSWER:\*

**KENT** with the NEW exclusive Micronite Filter

offers significantly superior filtration — better than 40%...significantly less tars and nicotine ...than any other leading filter brand.

And it offers this, plus easy draw...and the full rich flavor of the world's finest premium-quality natural tobaccos.

# IMPORTANT NEW DEVELOPMENT IN FILTER CIGARETTES

## \* PROOF of significantly less tars and nicotine in KENT



KENT REGULAR (NOT SHOWN ON CHART): 17.0 MGS. OF TARS; 1.36 MGS. OF NICOTINE.

Based on tests by Lorillard Research Laboratories. Substantiated by comparable results from three nationally known independent research laboratories.

Kent is definitely not just another "taste good" cigarette with a token filter.

P. Lorillard Company has been able to develop a cigarette with significantly superior filtration. Kent with the NEW exclusive Micronite Filter offers significantly less tars and nicotine in the mainstream smoke, yet is a fully satisfying cigarette.

Broad-sample tests with smokers show Kent's carefully-selected, custom-blended natural tobaccos come through rich and full-flavored. On laboratory draw-meters, Kent registers in the optimum range for easy draw.

We sincerely believe you will find Kent with the NEW exclusive Micronite Filter a thoroughly satisfying filter cigarette on every count. We cordially invite your further inquiry.

P. Lorillard Company, makers of KENT  
with the new exclusive Micronite Filter



# ANNUAL MEETING

## OCTOBER 25 - 26

### WILMINGTON

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*Quality Dairy Products  
Since 1900*

---

**GOLDEN GUERNSEY MILK**

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# Income\* for the members of the Delaware Medical Profession from the first day\* of sickness or injury...

NOW! Not for only 26 weeks

— Not for only 52 weeks

## but even for your entire lifetime

House Confinement not required at any time

Accidental loss of hands, feet or eyesight pays monthly benefits — not just a lump sum

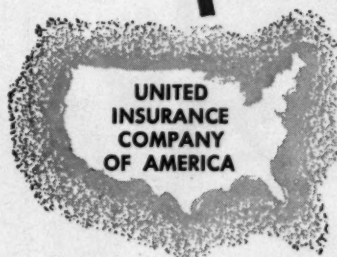
**EXTRA BENEFITS** — Double monthly benefits while you are hospitalized payable for as long as three months

Cash benefits for accidental death

Double income benefits if disabled in specified travel accident named in the policy

**OTHER IMPORTANT FEATURES** — Waiver of Premium Provision  
• Limited Commercial Air Line Passenger Coverage • No Automatic Termination Age During Policy Period • A Special Renewal Agreement

*Covers most accidents from date of policy and most sickness originating more than 30 days after date of policy, excepting those incurred while in military service of any country at war, or resulting from war, any act of war, suicide, attempted suicide, insanity, mental disease, certain foreign travel, any pre-existing condition or any hazard of aviation other than commercial air line passenger travel*



MP-3208

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Name ..... Age .....

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\*Income payable from first day of medical attention and as long as continuous total disability, total loss of time and medical attendance continue

◀ Mail coupon today while you are still healthy

**MEDICAL SOCIETY  
of  
DELAWARE**

**ANNUAL MEETING**

**OCTOBER 25 - 26**

**WILMINGTON**



"...a calmative effect...superior to anything we  
had previously seen with the new drugs."\*

true calmative



**nostyn®**

Ectylurea, AMES  
(2-ethyl-cis-crotonylurea)

the power of gentleness

*allays anxiety and tension  
without depression, drowsiness, motor incoordination*

NOSTYN is a *calmative*—not a hypnotic-sedative—unrelated to any available chemopsychotherapeutic agent • no evidence of cumulation or habituation • does not increase gastric acidity or motility • unusually wide margin of safety —no significant side effects

dosage: 150-300 mg. (½ to 1 tablet) three or four times daily.

supplied: 300 mg. scored tablets, bottles of 48 and 500.

\*Ferguson, J. T., and Linn, F. V. Z.: Antibiotic Med. & Clin. Therapy 3:329, 1956.



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• over 10 million patients

treated in the United States

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# THORAZINE\*

chlorpromazine, S.K.F.

one of the fundamental drugs in medicine



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